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New NYUAD research finds 3D printers offer alternate method to create microfluidic probes

Typically made of glass or silicon, MFPs are very tiny scientific tools—roughly the size of a pen tip—and were invented about a decade ago and are continuously being developed and refined. They are used by scientists around the world to study, process, and manipulate live cell cultures in a controlled environment.

While the technology is well established, it still poses unique challenges and limitations. MFPs cannot be easily produced on demand due to their complex fabrication procedures, and are expensive to make in large quantities because of their assembly procedures.

"3D printers provide a simple, rapid, and low-cost technique for fabricating MFPs," said Qasaimeh, whose team developed a framework to print MFPs and quadropoles in 3D.

"It’s cheaper to produce, easy to scale up, and fast to fabricate—all steps, from design to product, can be made in less than a day," he explained, and as a result, "any science lab with a moderate resolution stereolithography printer will be able to fabricate 3D MFPs on demand and use them to process cells reliably."

3D printed MFPs, “can deliver reagents in a localized manner, only a few tens of cells can be targeted within the culture dish, while leaving other millions of cultured cells untouched,” added Brimmo.

In an earlier study, Qasaimeh and his research team used a silicon MFP to discover how neutrophils respond to moving sources of concentration gradients that mimic infections and pathogens. The research analyzed how quickly these cells respond to stimulation, showed how neutrophils start their migrations at a maximal speed that slows over time, and how neutrophils undergo rolling-like behaviors before they start to pursue an infection site.

Qasaimeh is the principal investigator of the Advanced Microfluidics and Microdevices Laboratory at NYU Abu Dhabi, whose work focuses primarily on developing micro-tools for biologists working in human health research, including devices to capture circulating tumor cells taken from blood samples of cancer patients.
University of Pennsylvania School of Medicine

Penn Biomedical Graduate Studies program receives gift for scientists in training

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – (PHILADELPHIA)

The Perelman School of Medicine at the University of Pennsylvania has received a $2 million gift from the Blavatnik Family Foundation to establish the Blavatnik Family Fellowship in Biomedical Research in the Penn Biomedical Graduate Studies (BGS) program. Headed by industrialist and philanthropist Len Blavatnik, the Blavatnik Family Foundation has a strong history of supporting talented young scientists at premier institutions around the globe.

The Blavatnik Family Fellowship will be competitively awarded to six Penn BGS students for each of the next four academic years. By 2021, the Blavatnik Family Fellowship will have impacted 24 students, all Blavatnik Family Fellows, by providing a crucial boost at the very moment these talented trainees are launching as independent investigators. The Fellowship ensures support for students during their work with their mentors, a pivotal relationship in their scientific journey.

“We are delighted to be able to partner with the Blavatnik Family Foundation in accelerating critical research by cultivating outstanding young minds at the beginning of their careers,” said University President Amy Gutmann. “We are deeply grateful to Len Blavatnik and the Blavatnik Family Foundation for this visionary gift to Penn Biomedical Graduate Studies—one of the strongest training programs in the nation—and their support for the next generation of scientific thought leaders.”

The inaugural class of Blavatnik Family Fellows was chosen in July 2018 from many nominees from the BGS program. The students selected are Divyansh Agarwal, Edward Chuang, Jinyang Li, Kamen Simeonov, Huchuan “Cedric” Xia, and Linda Zhou. They are focusing on research projects with translational implications across many disease areas, including: ocular diseases, amyotrophic lateral sclerosis, pancreatic cancer, cancer metastasis, psychiatric disorders; and trinucleotide repeat expansion disorders, such as Huntington’s disease and Fragile X Syndrome.

J. Larry Jameson, MD, PhD, Executive Vice President of the University of Pennsylvania for the Health System and Dean of the Perelman School of Medicine, explained the power and influence these students bring to their research labs: “Many of our students are playing key roles in advancing major breakthroughs here at Penn thanks to BGS’s thoughtful, expert mentors, a world-class research infrastructure, and a culture of collaboration. With the generous support of the Blavatnik Family Foundation, our talented Blavatnik Family Fellows will be able to transform their scientific passions into discoveries that improve human health.”

Len Blavatnik—a prominent entrepreneur and philanthropist—is the founder of Access Industries, a privately-held, global industrial group. “By establishing this landmark fellowship at Penn, we hope to empower talented students to pursue high-risk, high-reward projects in the lab,” said Blavatnik. “This investment in our future will benefit cutting-edge science now and over time as these trainees grow and drive innovation in their respective fields.” Blavatnik’s forward-thinking philanthropy has made an impact in both the United States and abroad, enriching the research landscape and creating an elite community of creative and ambitious young scientists.

Keywords for this news article include: University of Pennsylvania School of Medicine.

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Oncology - Cancer Research

Study Data from University of Georgia Update Understanding of Cancer Research (Autotaxin exacerbates tumor progression by enhancing MEK1 and overriding the function of miR-489-3p)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Oncology - Cancer Research have been published. According to news reporting originating in Athens, Georgia, by NewsRx journalists, research stated, “Upregulated expression of autotaxin, a secreted phospholipase and phosphodiesterase enzyme, appears in malignant disease. The identification of a circulating miRNA signature should distinguish autotaxin-mediated disease and also elucidate unknown molecular mechanisms that rationalize its malignant potential.”

Financial support for this research came from National Institutes of Health.

The news reporters obtained a quote from the research from the University of Georgia, “Using female transgenic ‘AT-ATX’ mice, whereby human wild-type autotaxin is expressed in liver under the control of the alpha-1 antitrypsin promoter, transgenic animals express augmented autotaxin in circulation and a percentage develop tumors. Serum collected at necropsy had circulating miRNAs analyzed for statistical significance. The ensuing autotaxin-mediated miRNome differentiated between groups: healthy FVB/N mice versus AT-ATX mice with and without tumors. Intriguingly, miR-489-3p was sharply increased in AT-ATX tumor-bearing mice. Tissue analysis showed a correlation between miR-489-3p expression in tumors and surrounding milieu with autotaxin concentration in circulation. Sequence alignment suggested miR-489-3p targets MEK1, which was confirmed through in vitro studies. Exogenously added miR-489-3p, which decreases MEK1 in normal cells, dramatically increased MEK1 expression in cells stably expressing autotaxin.”

According to the news reporters, the research concluded: “Taken together, this suggests that autotaxin overrides the normal regulatory function of miR-489-3p to inhibit MEK1 via coordinately increased miR-489-3p appearing in serum.”


The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.canlet.2018.05.037. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Athens, Georgia, United States, North and Central America, Cancer Research, Oncology, University of Georgia.

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Cell Proliferation

Reports on Cell Proliferation from Department of Urology Provide New Insights (Overexpression of MCM10 promotes cell proliferation and predicts poor prognosis in prostate cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Cell Proliferation. According to news reporting originating from Zhenjiang, People’s Republic of China, by NewsRx correspondents, research stated, “Prostate cancer (PCa) is one of the most malignant tumors of the male urogenital system. There is an urgent need to identify novel biomarkers for PCa.”

Funders for this research include Jiangsu Province Youth Medical Key Talent Program, Social Development Plan of Jiangsu Province-Standardization of Key Disease Diagnosis and Treatment Projects.

Our news editors obtained a quote from the research from the Department of Urology, “In this study, we evaluated the expression levels of MCM10 in prostate cancer by analyzing public datasets (including The Cancer Genome Atlas and GSE21032). Furthermore, loss of function assays was performed to evaluate the effects of MCM10 on cell proliferation, apoptosis, and colony formation. Furthermore, we performed microarray and bioinformatics analyses to explore the potential mechanisms of MCM10. In the present study, we for the first time revealed MCM10 was significantly upregulated in PCa. Moreover, we found increased MCM10 expression was significantly associated with advanced clinical stage and high Gleason score PCa. Kaplan-Meier analysis demonstrated higher MCM10 expression was associated with a poorer patient prognosis in PCa. Furthermore, loss of function assays showed that MCM10 knockdown inhibited cell proliferation and colony formation, but promoted cell apoptosis. Additionally, we performed microarray and bioinformatics analysis and found MCM10 regulated PCa progression by regulating a series of biological processes including cancer, cell death, and apoptosis.”

According to the news editors, the research concluded: “These results suggest that MCM10 may be a potential diagnostic and therapeutic target for PCa.”

For more information on this research see: Overexpression of MCM10 promotes cell proliferation and predicts poor prognosis in prostate cancer. The Prostate, 2018;().

The news editors report that additional information may be obtained by contacting F. Cui, Dept. of Urology, The Affiliated People’s Hospital of Jiangsu University, Zhenjiang, Jiangsu, People’s Republic of China. Additional authors for this research include J. Hu, S. Ning, J. Tan and H. Tang.

Keywords for this news article include: Zhenjiang, People’s Republic of China, Asia, Apoptosis, Cell Proliferation, Cellular Physiology, Health and Medicine, Oncology, Prostate Cancer, Prostatic Neoplasms.

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Cellular Physiology - Apoptosis

Researchers from Henan University of Science and Technology Provide Details of New Studies and Findings in the Area of Apoptosis (Differentially expressed genes of HepG2 cells treated with gecko polypeptide mixture)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Cellular Physiology - Apoptosis are presented in a new report. According to news reporting originating from Luoyang, People’s Republic of China, by NewsRx correspondents, research stated, “Gecko () extracts have
been used in traditional Chinese medicine for many years. It has been proven that the gecko polypeptide mixture (GPM) extracted from gecko can inhibit the growth of multiple types of tumor cells."

Our news editors obtained a quote from the research from the Henan University of Science and Technology, “In order to investigate the possible anti-tumor molecular mechanisms of GPM, we used RNA-seq technology to identify the differentially expressed genes (DEGs) of human hepatocellular carcinoma (HCC) HepG2 cells treated with or without GPM. MTT assay was used to detect the viability of HepG2 cells. DAPI fluorescence staining was performed to observe morphological changes in the nuclei of HepG2 cells. Western blot analysis was applied to observe the expressions of apoptosis-related and endoplasmic reticulum stress (ERS)-related proteins in HepG2 cells. Flow cytometry assay was performed to detect the apoptosis and reactive oxygen species (ROS) in HepG2 cells. Our results showed that GPM inhibited HepG2 cells proliferation and induced the apoptosis of HepG2 cells. RNA-seq analysis suggested that the ER-nucleus signaling pathway involved in the anti-cancer molecular mechanism of GPM.”

According to the news editors, the research concluded: “Therefore, GPM may induce apoptosis in HepG2 cells via the ERs pathway.”


The news editors report that additional information may be obtained by contacting Y.M. Duan, Medical College Dept. of Pharmacy, Henan University of Science and Technology, Luoyang 471023, Henan Province, People’s Republic of China. Additional authors for this research include Y. Jin, M.L. Guo, L.X. Duan and J.G Wang.

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Keywords for this news article include: Luoyang, People’s Republic of China, Asia, Apoptosis, Cellular Physiology, Genetics, Health and Medicine.

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Oncology - Cancer Research

New Cancer Research Study Findings Reported from Liaoning Cancer Hospital and Institute (Long noncoding RNA MALAT1 regulates HDAC4-mediated proliferation and apoptosis via decoying of miR-140-5p in osteosarcoma cells)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Oncology - Cancer Research have been published. According to news originating from Shenyang, People’s Republic of China, by NewsRx correspondents, research stated, “Noncoding RNAs regulate the initiation and progression of osteosarcoma (OS). The role of long noncoding RNA metastasis-associated lung adenocarcinoma transcript 1 (MALAT1) playing in OS and whether the function it working out was achieved through HDAC4 pathway remain uncovered.”

Our news journalists obtained a quote from the research from Liaoning Cancer Hospital and Institute, “In this study, we illustrated that MALAT1 was upregulated and was correlated with poor prognosis in OS patients. Meanwhile, we demonstrated that a depression of MALAT1 suppressed proliferation and promoted apoptosis in OS cell line HOS and 143B. Further, we verified that MALAT1 exerting its function via upregulating of histone deacetylase 4 (HDAC4). Through an online prediction, a series of luciferase assays and RNA pull-down assays, we demonstrated that both MALAT1 and HDAC4 were the targets of
microRNA-140-5p (miR-140-5p) via sharing a similar microRNA responding elements. Even further, we revealed that MALAT1 served as a ceRNA of HDAC4 via decoying of miR-140-5p. Finally, we proved that MALAT1 promoted OS tumor growth in an in vivo animal study. In summary, the outcomes of this study demonstrated the complex ceRNA network among MALAT, miR-140-5p, and HDAC4-mediated proliferation and apoptosis in OS.

According to the news editors, the research concluded: “This study might provide a new axial in molecular treatment of OS.”


The news correspondents report that additional information may be obtained from Y. Sun, Dept. of Internal Medicine, Cancer Hospital of China Medical University, Liaoning Cancer Hospital and Institute, Shenyang, People’s Republic of China.

Keywords for this news article include: Shenyang, People’s Republic of China, Asia, Cancer Research, Genetics, Oncology.

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**Oncology - Kidney Cancer**

**Studies from Guangzhou Medical University Yield New Information about Kidney Cancer (RASSF6-mediated inhibition of Mcl-1 through JNK activation improves the anti-tumor effects of sorafenib in renal cell carcinoma)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Oncology - Kidney Cancer. According to news reporting from Guangdong, People’s Republic of China, by NewsRx journalists, research stated, “Ras association domain family member 6 (RASSF6) has been shown to act as a tumor suppressor and predictor of poor prognosis in renal cell carcinoma (RCC). However, little is known about the effects of RASSF6 on sorafenib resistance or the underlying mechanism.”

Financial supporters for this research include National Natural Science Foundation of China, Science and Technology Development Program of Guangdong Province, Natural Science Foundation of Guangdong Province.

The news correspondents obtained a quote from the research from Guangzhou Medical University, “Here, we show that RASSF6 expression positively correlates with sorafenib sensitivity in RCC cells and human samples. Stable ectopic overexpression of RASSF6 in RCC cell lines reduces resistance to sorafenib in vitro and in vivo. At a molecular level, RASSF6 activates the JNK signaling pathway, which further contributes to Mcl-1 inhibition. Suppression of the JNK pathway can partially restore Mcl-1 expression and sorafenib resistance. Together, these findings suggest that RASSF6 inhibits sorafenib resistance by repressing Mcl-1 through the JNK-dependent pathway.”

According to the news reporters, the research concluded: “RASSF6 may serve as a novel regulator for sorafenib therapy in RCC.”


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The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.canlet.2018.05.048. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Guangdong, People’s Republic of China, Asia, Tyrosine Kinase Inhibitors, VEGF - VEGFR Inhibitors, Multikinase Inhibitors, Health and Medicine, Drugs and Therapies, Sorafenib Therapy, VEGFR Inhibitors, Pharmaceuticals, Antineoplastics, Cancer Therapy, Kidney Cancer, Nephrology, Carcinomas, Oncology, Guangzhou Medical University.

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Oncology - Gallbladder Cancer

Researchers at Department of Surgical Oncology Release New Data on Gallbladder Cancer (Radiological diagnosis alone risks overtreatment of benign disease in suspected gallbladder cancer: A word of caution in an era of radical surgery)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Gallbladder Cancer have been presented. According to news originating from Maharashtra, India, by NewsRx correspondents, research stated, “Incidental gallbladder cancer (iGBC) is on the rise world over. This may be a good scenario as we get to treat GBC in early stages.”

Our news journalists obtained a quote from the research from the Department of Surgical Oncology, “However, there is a practice of diagnosing patients based on clinicoradiological findings alone and subjecting them to a radical surgical procedure. This approach over-treats patient and has important implications for resource utilization. We performed a retrospective analysis of 284 consecutive patients undergoing upfront surgery for suspected GBC from January 2010 to December 2016. The study cohort was divided into two groups, group A -benign (n=138, 48.6%) and group B -malignant (n=146, 51.4%). Both groups were compared with respect to demographic characteristics, tumor marker levels, clinicoradiological features, and perioperative outcomes. Approximately 48.6% patients with clinicoradiological suspicion of GBC turned out to be benign on final histology as confirmed on frozen section evaluation (FS). Only 2 patients who were reported benign on FS required revision surgery for malignancy in the final histopathology report. Demographic and clinicoradiological characteristics in both groups were comparable. However, there was a significant difference in blood loss, postoperative hospital stay, and complications between the two groups (p <0.005). Every other patient who presented to a tertiary cancer center with high index suspicion for malignancy, based on clinicoradiological findings, turned out to be benign on final histology.”

According to the news editors, the research concluded: “This emphasizes the fact that, as a norm, for radiologically suspected gallbladder malignancy, we need to have a confirmed histological diagnosis at least during surgery before proceeding to radical resection.”


The news correspondents report that additional information may be obtained from S. Patkar, Dept. of Surgical Oncology, Tata Memorial Hospital Tata Memorial Hospital, Mumbai, Maharashtra, India.
Oncology - Laryngeal Cancer

New Laryngeal Cancer Data Have Been Reported by Researchers at University of Health Sciences (Comparison of functional and oncological treatment outcomes after transoral robotic surgery and open surgery for supraglottic laryngeal cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Research findings on Oncology - Laryngeal Cancer are discussed in a new report. According to news reporting from Istanbul, Turkey, by NewsRx journalists, research stated, “To compare functional and oncological treatment outcomes among patients with supraglottic laryngeal cancers who underwent transoral robotic supraglottic laryngectomy and open supraglottic laryngectomy. A retrospective chart review was conducted of 17 patients treated by transoral robotic supraglottic laryngectomy and 20 patients treated by open supraglottic laryngectomy.”

The news correspondents obtained a quote from the research from the University of Health Sciences, “No tracheostomy or prolonged intubation was needed in the transoral robotic surgery group. Furthermore, that group had a shorter oral feeding time, hospitalisation and recovery period. There was no difference between groups in terms of complications. There were no differences in overall survival time and disease-specific survival time between groups.”

According to the news reporters, the research concluded: “Transoral robotic supraglottic laryngectomy for supraglottic laryngeal cancer is an oncologically safe and functional procedure with better results when compared to conventional open surgery.”

For more information on this research see: Comparison of functional and oncological treatment outcomes after transoral robotic surgery and open surgery for supraglottic laryngeal cancer. The Journal of Laryngology and Otology, 2018;():1-5.

Our news journalists report that additional information may be obtained by contacting B. Karabulut, Otolaryngology Department, University of Health Sciences, Umranıye Education and Research Hospital, Istanbul, Turkey. Additional authors for this research include I. Deveci, M. Surmeli, A. Sahin-Yilmaz and C Oysu.

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Keywords for this news article include: Istanbul, Turkey, Eurasia, Emerging Technologies, Health and Medicine, Laryngeal Cancer, Laryngeal Neoplasms, Laryngectomy, Machine Learning, Oncology, Otorhinolaryngologic Surgical Procedures, Robotics, Robots, Surgery.

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New Esophageal Cancer Study Findings Have Been Reported by Investigators at Sao Joao Hospital Center (Self-expandable metal stents are a valid option in long-term survivors of advanced esophageal cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Esophageal Cancer. According to news reporting originating in Porto, Portugal, by NewsRx journalists, research stated, “Self-expandable metal stents are often used for the palliative treatment of dysphagia in patients with advanced esophageal cancer and an anticipated limited survival. Due to previous reports of a high rate of adverse event when used long-term, concerns have been raised with regard to the use of self-expandable metal stents in patients with a longer survival.”

The news reporters obtained a quote from the research from Sao Joao Hospital Center, “assess the role of esophageal self-expandable metal stents in patients with advanced esophageal cancer that have survived longer than six months. retrospective study of patients with advanced esophageal cancer with a self-expandable metal stent and a stent placement time greater than six months. Results: forty-two patients were followed up for 298 days. There was a clinical improvement in all patients. However, 59% of patients experienced an adverse event. The median stent patency was 236 days. Endoscopic management was attempted in all self-expandable metal related adverse events, with a clinical success rate of 100%. However, the previously treated adverse event recurred in seven patients. Multivariate analysis showed that strictures that were traversable with an ultrathin gastroscope were associated with a higher risk of adverse events (p = 0.035).”

According to the news reporters, the research concluded: “Long-term esophageal stenting in patients with advanced esophageal cancer is associated with a high prevalence of adverse events without an impact on mortality; most cases can be managed endoscopically.”

For more information on this research see: Self-expandable metal stents are a valid option in long-term survivors of advanced esophageal cancer. Revista Espanola De Enfermedades Digestivas, 2018;110(8):500-504. Revista Espanola De Enfermedades Digestivas can be contacted at: Aran Ediciones, S A, Castello, 128, 10, 28006 Madrid, Spain.

Our news correspondents report that additional information may be obtained by contacting E. Rodrigues-Pinto, Center Hosp Sao Joao, Gastroenterol Department, P-4200319 Porto, Portugal. Additional authors for this research include P. Pereira, T.H. Baron and G. Macedo.

Keywords for this news article include: Porto, Portugal, Europe, Risk and Prevention, Health and Medicine, Esophageal Cancer, Gastroenterology, Oncology, Sao Joao Hospital Center.

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Recent Findings from Sun Yat Sen University Provides New Insights into Squamous Cell Carcinoma (Targeting Orai1-mediated store-operated calcium entry by RP4010 for anti-tumor activity in esophagus squamous cell carcinoma)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Oncology - Squamous Cell Carcinoma is now available. According to news reporting originating in
Esophageal cancer (EC) is the 6th leading cause of cancer mortality worldwide with poor prognosis, hence more effective chemotherapeutic drugs for this deadly disease are urgently needed. We previously reported that high expression of Orai1, a store-operated Ca2+ entry (SOCE) channel, was associated with poor survival rate in EC patients and Orai1-mediated intracellular Ca2+ oscillations regulated cancer cell proliferation.

Financial supporters for this research include U.S. National Institutes of Health (NIH), National Cancer Institute, University of Texas System STARS award.

The news reporters obtained a quote from the research from Sun Yat Sen University, “Previous studies suggested that Orai1-mediated SOCE is a promising target for EC chemotherapy. Here, we evaluated the anticancer effect of a novel SOCE inhibitor, RP4010, in cultured EC cells and xenograft models. Compared to other previously reported SOCE channel inhibitors, RP4010 is more potent in blocking SOCE and inhibiting cell proliferation in EC and other cancer cells. Treatment with RP4010 resulted in reduction of intracellular Ca2+ oscillations, caused cell cycle arrest at G0/G1 phase in vitro, decreased nuclear translocation of nuclear factor kappa B (NF-κB) in vivo and in vitro, and inhibited tumor growth in vivo.”

According to the news reporters, the research concluded: “Taken together, data demonstrated the therapeutic potential of RP4010 in EC patients via inhibition of SOCE-mediated intracellular Ca2+ signaling.”


Our news correspondents report that additional information may be obtained by contacting L.W. Fu, Sun Yat Sen University Center Canc, Collaborat Innovat Center Canc Med, State Key Lab Oncol South China, Guangzhou, Guangdong, People’s Republic of China. Additional authors for this research include Y. Chang, X.L. Zhang, S.Y. Choi, H. Tran, K.V. Pennmetsa, S. Viswanadha, C.C. Cui and Z. Pan.

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Keywords for this news article include: Guangdong, People’s Republic of China, Asia, Squamous Cell Carcinoma, Health and Medicine, Drugs and Therapies, Cell Proliferation, Cancer Therapy, Carcinomas, Oncology, Sun Yat Sen University.

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immunohistochemically stained for STAT3 and STAT3 pathway proteins, sphingosine-1-phosphate receptor 1 (S1PR1) and interleukin-6 (IL-6), in a tissue microarray containing 99 UTUC specimens.

The news correspondents obtained a quote from the research from the Osaka University Graduate School of Medicine, “There were no significant associations between STAT3, S1PR1, or IL-6 expression pattern and tumor grade or pT stage. However, the patients with high STAT3 tumor had a significantly higher risk of both disease progression (p=0.009) and cancer-specific mortality (p=0.009), but not with tumors expressing S1PR1 or IL-6. High STAT3 expression in the nucleus was also associated with a significantly higher risk of both disease progression (p=0.003) and cancer-specific mortality (p=0.034). Multivariate analysis revealed that high STAT3 expression in the nucleus was significantly associated with cancer-specific survival after adjustment for pathological stage, lymph node involvement, lymphovascular invasion, and tumor grade (HR=2.136, 95% CI=1.009-4.767, p=0.047).”

According to the news reporters, the research concluded: “Our findings indicated that STAT3 could be a cancer-promoting factor and potentially a significant prognostic factor in UTUC.”

For more information on this research see: STAT3 expression is a prognostic marker in upper urinary tract urothelial carcinoma. Plos One, 2018;13(8):e0201256. (Public Library of Science - www.plos.org; Plos One - www.plosone.org)

Our news journalists report that additional information may be obtained by contacting K. Matsuzaki, Dept. of Urology, Osaka University Graduate School of Medicine, Suita, Osaka, Japan. Additional authors for this research include K. Fujita, Y. Hayashi, M. Matsushita, S. Nojima, K. Jingushi, T. Kato, A. Kawashima, T. Ujike, A. Nagahara, M. Uemura, R. Imamura, S. Yamaguchi, H. Fushimi, H. Miyamoto, E. Morii and N. Nonomura.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1371/journal.pone.0201256. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Osaka, Japan, Asia, Biomarkers, Carcinomas, Diagnostics and Screening, Health and Medicine, Oncology, Prognostic Markers, Urinary Tract, Urothelial Cancer.

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Diagnostics and Screening - Cancer Biomarkers
Reports Outline Cancer Biomarkers Study Results from University College London (Immunohistochemical biomarker validation in highly selective needle biopsy microarrays derived from mpMRI-characterized prostates)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Diagnostics and Screening - Cancer Biomarkers. According to news originating from London, United Kingdom, by NewsRx correspondents, research stated, “Diagnosing prostate cancer routinely involves tissue biopsy and increasingly image guided biopsy using multiparametric MRI (mpMRI). Excess tissue after diagnosis can be used for research to improve the diagnostic pathway and the vertical assembly of prostate needle biopsy cores into tissue microarrays (TMAs) allows the parallel immunohistochemical (IHC) validation of cancer biomarkers in routine diagnostic specimens.”

Financial supporters for this research include University College London, European Association of Urology, Prostate Cancer UK, NIHR UCH/UCL Biomedical Research Centre, Wellcome Trust.

Our news journalists obtained a quote from the research from University College London, “However, tissue within a biopsy core is often heterogeneous and cancer is not uniformly present, resulting in needle biopsy TMAs that suffer from highly variable cancer detection rates that complicate parallel biomarker
validation. The prostate cores with the highest tumor burden (in terms of Gleason score and/or maximum cancer core length) were obtained from 249 patients in the PICTURE trial who underwent transperineal template prostate mapping (TPM) biopsy at 5 mm intervals preceded by mpMRI. From each core, 2 mm segments containing tumor or benign tissue (as assessed on H&E pathology) were selected, excised and embedded vertically into a new TMA block. TMA sections were then IHC-stained for the routinely used prostate cancer biomarkers PSA, PSMA, AMACR, p63, and MSMB and assessed using the h-score method. H-scores in patient matched malignant and benign tissue were correlated with the Gleason grade of the original core and the MRI Likert score for the sampled prostate area. A total of 2240 TMA cores were stained and IHC h-scores were assigned to 1790. There was a statistically significant difference in h-scores between patient matched malignant and adjacent benign tissue that is independent of Likert score. There was no association between the h-scores and Gleason grade or Likert score within each of the benign or malignant groups. The construction of highly selective TMAs from prostate needle biopsy cores is possible. IHC data obtained through this method are highly reliable and can be correlated with imaging.

According to the news editors, the research concluded: “IHC expression patterns for PSA, PSMA, AMACR, p63, and MSMB are distinct in malignant and adjacent benign tissue but did not correlate with mpMRI Likert score.”

For more information on this research see: Immunohistochemical biomarker validation in highly selective needle biopsy microarrays derived from mpMRI-characterized prostates. The Prostate, 2018().:


The direct object identifier (DOI) for that additional information is: https://doi.org/10.1002/pros.23698. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: London, United Kingdom, Europe, Cancer Biomarkers, Carcinoma Biomarkers, Diagnostics and Screening, Health and Medicine, Oncology.

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Oncology - Colon Cancer
Studies from Ottawa Hospital Research Institute in the Area of Colon Cancer Reported (Association between perioperative beta blocker use and cancer survival following surgical resection)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Colon Cancer. According to news reporting out of Ottawa, Canada, by NewsRx editors, research stated, “Recent studies have demonstrated an association between beta-blocker exposure and improved survival in multiple cancer types. We sought to investigate the effects of beta-blockers at the time of index surgery for breast, lung, and colorectal cancer.”

Financial supporters for this research include King Khalid University Hospital, King Saud University, Department of Surgery.

Our news journalists obtained a quote from the research from Ottawa Hospital Research Institute, “Using linked data from a provincial cancer registry, we conducted a retrospective matched cohort study comparing disease-specific and overall survival between patients over age 64 exposed and not exposed to beta-blockers before and after index surgical resection for breast, lung and colorectal cancer between April
1st, 2002 and December 31st, 2010. A high-dimensional propensity score was used to match patients and Cox proportional hazard models were used to estimate relative risks of the outcomes. 30,020 patients were included in the final matched cohorts. Mean follow up time for breast, lung, and colorectal cancer was 57.6 +/- 30.5, 43.1 +/- 28.7, and 53.4 +/- 31.0 months, respectively. The adjusted hazard ratio for disease-specific mortality for patients exposed to beta-blockers was 1.03 (0.83-1.29) for breast, 1.05 (0.92-1.20) for lung, and 1.10 (0.96-1.25) for the colorectal cancer cohort.

According to the news editors, the research concluded: “In this large population-based study, no association between perioperative beta-blocker exposure and improved cancer-specific survival for breast, lung, or colorectal cancer was demonstrated.”


Our news journalists report that additional information may be obtained by contacting R.C. Auer, Ottawa Hosp Res Inst, Ottawa, ON, Canada. Additional authors for this research include S. Bennett, W.B. Li, M. Mamdani, T. Gomes, C. van Walraven, R. Boushey, O. Al-Obeed, M. Al-Omran and R.P. Musselman.

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Keywords for this news article include: Ottawa, Ontario, Canada, North and Central America, Health and Medicine, Colorectal Research, Gastroenterology, Epidemiology, Colon Cancer, Oncology, Ottawa Hospital Research Institute.

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Oncology - Lung Cancer

Research Results from First Affiliated Hospital of China Medical University Update Understanding of Lung Cancer (Inhibition of ITCH Suppresses Proliferation and Induces Apoptosis of Lung Cancer Cells)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Oncology - Lung Cancer are presented in a new report. According to news originating from Shenyang, People’s Republic of China, by NewsRx correspondents, research stated, “The E3 ubiquitin ligase ITCH plays an important role in invasive and metastatic cancers. However, the role of ITCH in the progression of lung cancer has not been fully described.”

Our news journalists obtained a quote from the research from the First Affiliated Hospital of China Medical University, “Real-time PCR was used to detect the expression of ITCH mRNA in the tumor tissues and paracarcinoma tissues from 32 patients with lung cancer. SiRNA was used to inhibit the expression of ITCH in two lung cancer cell lines, H1975 and Calu3 and the cell proliferation and apoptosis were measured by MTT and flow cytometric assay. In addition, to further investigate whether ITCH affected the apoptosis of cancer cells and its underlying mechanisms, the expression of important markers of apoptosis and invasion in lung cancer cells were detected by Western blot. The study showed significant increments in the expression of ITCH in lung cancer tissues (p <0.001). ITCH siRNA effectively inhibited the proliferation and invasion of the lung cancer cells and promoted cell apoptosis. Molecular analysis
further showed significant reductions in the expression of Bcl2, MMP2, MMP9 and b-catenin and an increase in the expression of Bax and E-cadherin in the lung cancer cells with ITCH deficiency.

According to the news editors, the research concluded: “Inhibition of ITCH might suppress lung cancer proliferation and invasion via regulation of MMPs, EMT and Bcl2/Bax signaling pathway.”


The news correspondents report that additional information may be obtained from P.F. Li, Dept. of Thoracic Surgery, The First Affiliated Hospital of China Medical University, Shenyang, People’s Republic of China.

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Keywords for this news article include: Shenyang, People’s Republic of China, Asia, Apoptosis, Cellular Physiology, Genetics, Health and Medicine, Lung Cancer, Lung Neoplasms, Oncology.

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Oncology - Gastric Cancer

Study Data from Jiangsu University Update Understanding of Gastric Cancer (Exosomal miR-423-5p targets SUFU to promote cancer growth and metastasis and serves as a novel marker for gastric cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Gastric Cancer. According to news originating from Zhenjiang, People’s Republic of China, by NewsRx correspondents, research stated, “Exosomes are critically involved in tumor growth, metastasis, and therapy resistance. Exosomes have the potential to be utilized as cancer biomarkers.”

Financial supporters for this research include National Natural Science Foundation of China, Jiangsu Key Research and Development Project, China Postdoctoral Science Foundation, Priority Academic Program Development of Jiangsu Higher Education Institutions, Natural Science Foundation of Jiangsu Province, Natural Science Fund for Colleges and Universities of Jiangsu Province, Suzhou Science and Technology Project.

Our news journalists obtained a quote from the research from Jiangsu University, “In this study, we aimed to explore the roles and clinical values of exosomal miRNAs in gastric cancer. We found that the concentration of exosomes was significantly higher in the serum of gastric cancer patients and the culture supernatants of gastric cancer cells than that in healthy volunteers and gastric mucosa epithelial cells. In particular, miR-423-5p was elevated in the serum exosomes of gastric cancer patients, and the level of exosomal miR-423-5p was remarkably correlated with lymph node metastasis. High level of exosomal miR-423-5p was associated with poor outcome in gastric cancer patients. MiR-423-5p enriched exosomes could be internalized into gastric cancer cells, which enhanced cell proliferation and migration both in vitro and in vivo. Mechanistically, miR-423-5p inhibited the expression of sup pressor f fused protein (SUFU) to enhance the proliferation and migration of gastric cancer cells. The expression levels of SUFU were significantly decreased in gastric cancer cells and the tumor tissues of gastric cancer patients.”

According to the news editors, the research concluded: “Taken together, our findings indicate that
exosomes could deliver miR-423-5p to promote cancer growth and metastasis and serum exosomal miR-423-5p may serve as a potential marker for gastric cancer diagnosis and prognosis."


The direct object identifier (DOI) for that additional information is: https://doi.org/10.1002/mc.22838. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Zhenjiang, People’s Republic of China, Asia, Diagnostics and Screening, Cytoplasmic Structures, Health and Medicine, Transport Vesicles, Gastroenterology, Gastric Cancer, Organelles, Biomarkers, Exosomes, Oncology, Jiangsu University.

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**Membrane Proteins - Tumor Necrosis Factors**

**Findings from Singapore National University Provides New Data about Tumor Necrosis Factors [Novel tumor necrosis factor-alpha induced protein eight (TNFAIP8/TIPE) family: Functions and downstream targets involved in cancer progression]**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Membrane Proteins - Tumor Necrosis Factors have been published. According to news reporting originating from Singapore, Singapore, by NewsRx correspondents, research stated, “The tumor necrosis factor (TNF)-alpha-induced protein 8 (TNFAIP8/TIPE) family is a death effector domain (DED) containing protein family with four identified members: TNFAIP8 (TIPE), TNFAIP8L1 (TIPE1), TNFAIP8L2 (TIPE2), and TNFAIP8L3 (TIPE3). These proteins were found to play crucial roles in the regulation of immune homeostasis, inflammation, and cancer development.”

Our news editors obtained a quote from the research from Singapore National University, “Intensive research in the past two decades revealed a strong correlation of TIPE proteins with the development of various cancers including cancers of the bladder, blood, bone, breast, cervix, colon, esophagus, endometrium, stomach, liver, lung, ovary, pancreas, prostate, and thyroid gland. Also, deregulation of these proteins was found to promote the essential hallmarks of cancer such as survival, tumor growth, proliferation, inhibition of apoptosis, angiogenesis, invasion, migration, and metastasis. Further, differential expression of these proteins in normal and cancer tissues and their association with tumor progression and prognosis signifies the potential diagnostic and prognostic values of TIPE proteins and their importance in cancer therapy.”

According to the news editors, the research concluded: “The current review summarizes the literature available thus far on the expression, function, and role of TIPE proteins in the development and maintenance of various cancers.”

For more information on this research see: Novel tumor necrosis factor-alpha induced protein eight (TNFAIP8/TIPE) family: Functions and downstream targets involved in cancer progression. Cancer
**Oncology - Bladder Cancer**

**Findings on Bladder Cancer from A.B. Smith and Colleagues Provide New Insights (Patient-Centered Prioritization of Bladder Cancer Research)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Oncology - Bladder Cancer have been published. According to news reporting from Chapel Hill, North Carolina, by NewsRx journalists, research stated, “Patient-centered research requires the meaningful involvement of patients and caregivers throughout the research process. The objective of this study was to create a process for sustainable engagement for research prioritization within oncology.”

The news correspondents obtained a quote from the research, “From December 2014 to 2016, a network of engaged patients for research prioritization was created in partnership with the Bladder Cancer Advocacy Network (BCAN): the BCAN Patient Survey Network (PSN). The PSN leveraged an online bladder cancer community with additional recruitment through print advertisements and social media campaigns. Prioritized research questions were developed through a modified Delphi process and were iterated through multidisciplinary working groups and a repeat survey. In year 1 of the PSN, 354 patients and caregivers responded to the research prioritization survey; the number of responses increased to 1034 in year 2. The majority of respondents had non-muscle-invasive bladder cancer (NMIBC), and the mean time since diagnosis was 5 years. Stakeholder-identified questions for noninvasive, invasive, and metastatic disease were prioritized by the PSN. Free-text questions were sorted with thematic mapping. Several questions submitted by respondents were among the prioritized research questions. A final prioritized list of research questions was disseminated to various funding agencies, and a highly ranked NMIBC research question was included as a priority area in the 2017 Patient-Centered Outcomes Research Institute announcement of pragmatic trial funding. Patient engagement is needed to identify high-priority research questions in oncology. The BCAN PSN provides a successful example of an engagement infrastructure for annual research prioritization in bladder cancer.”

According to the news reporters, the research concluded: “The creation of an engagement network sets the groundwork for additional phases of engagement, including design, conduct, and dissemination.”


Our news journalists report that additional information may be obtained by contacting A.B. Smith, Lineberger Comprehens Canc Center, Multidisciplinary Genitourinary Oncol, Chapel Hill, NC, United States.
Additional authors for this research include S. Chisolm, A. Deal, A. Spangler, D.Z. Quale, R. Bangs, J.M. Jones and J.L. Gore.

Keywords for this news article include: Chapel Hill, North Carolina, United States, North and Central America, Health and Medicine, Bladder Cancer, Oncology.

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Oncology - Liver Cancer

New Liver Cancer Study Findings Have Been Reported by Investigators at Fudan University (Different MR features for differentiation of intrahepatic mass-forming cholangiocarcinoma from hepatocellular carcinoma according to tumor size)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Liver Cancer. According to news reporting originating in Shanghai, People’s Republic of China, by NewsRx journalists, research stated, “To identify reliable magnetic resonance (MR) features for distinguishing mass-forming type of intrahepatic cholangiocarcinoma (IMCC) from hepatocellular carcinoma (HCC) based on tumor size. This retrospective study included 395 patients with pathologically confirmed IMCCs (n = 180) and HCCs (n = 215) who underwent pre-operative contrast-enhanced MRI including diffusion-weighted imaging (DWI).”

The news reporters obtained a quote from the research from Fudan University, “MR features were evaluated and clinical data were also recorded. All the characteristics were compared in small (<= 3cm) and large tumor (>3cm) groups by univariate analysis and subsequently calculated by multivariable logistic regression analysis. Multivariable analysis revealed that rim arterial phase hyperenhancement [odds ratios (ORs) = 13.16], biliary dilation (OR = 23.42) and CA19-9 (OR = 21.45) were significant predictors of large IMCCs (n = 138), and washout appearance (OR = 0.036), enhancing capsule appearance (OR = 0.039), fat in mass (OR = 0.057), chronic liver disease (OR = 0.088) and alpha fetoprotein (OR = 0.019) were more frequently found in large HCCs (n = 143). For small IMCCs (n = 42) and HCCs (n = 72), rim arterial phase hyperenhancement (OR = 9.68), target appearance at DWI (OR 12.51), alpha fetoprotein (OR = 0.12) and sex (OR = 0.20) were independent predictors in multivariate analysis. Valuable MR features and clinical factors varied for differential diagnosis of IMCCs and HCCs according to tumor size. Advances in knowledge: MR features for differential diagnosis of large IMCC and HCC (>3 cm) are in keeping with that recommended by LI-RADS.”

According to the news reporters, the research concluded: “However, for small IMCCs and HCCs (<= 3 cm), only rim enhancement on arterial phase and target appearance at DWI are reliable predictors.”


Our news correspondents report that additional information may be obtained by contacting S.X. Rao, Fudan University, Zhongshan Hosp, Dept. of Radiol, Shanghai, People’s Republic of China. Additional authors for this research include X.S. Shang, W.T. Wang, X.X. Hu, M.S. Zeng and T. Ni.

Keywords for this news article include: Shanghai, People’s Republic of China, Asia, Biological Tumor Markers, Health and Medicine, alpha-Fetoproteins, Biological Factors, Cholangiocarcinoma, Liver Cancer, Carcinomas, Oncology, Fudan University.

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Biotechnology - miRNA-Based Therapy

New Findings on miRNA-Based Therapy from Central Hospital Summarized (miRNA-222 promotes liver cancer cell proliferation, migration and invasion and inhibits apoptosis by targeting BBC3)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Biotechnology - miRNA-Based Therapy is now available. According to news reporting originating in Hebei, People’s Republic of China, by NewsRx journalists, research stated, “The present study aimed to investigate molecular mechanisms associated with liver cancer and provide a possible therapeutic target for the treatment of liver cancer. Liver cancer patients that were diagnosed and treated at the Central Hospital of China National Petroleum Corp. were included in the present study. microRNA (miR)-222 was predicted to target B-cell lymphoma-2 (Bcl-2) binding component 3 (BBC3, also known as p53 upregulated modulator of apoptosis) by a bioinformatics analysis with TargetScan, which was verified by a dual-luciferase reporter assay system.”

The news reporters obtained a quote from the research from Central Hospital, “The correlations between BBC3 and miR-222 levels and the patients’ characteristics were analyzed. Furthermore, reverse transcription-quantitative polymerase chain reaction was used to assess the mRNA levels of miRNA-222 in the HCC-LM3, MHCC97H and HepG2 cell lines. HepG2 cells were then transfected with miR-222 inhibitor or miR-negative control inhibitor. Cell proliferation, apoptosis, cell cycle, migration and invasion were evaluated by an MTT assay, flow cytometry, wound healing assay and Transwell assay, respectively. BBC3 was quantified by immunofluorescence and western blot analysis, and cyclin D1, Bcl-2 and caspase-3 levels were also evaluated by western blotting. miR-222 inhibitor obviously inhibited HepG2 cell proliferation, migration, invasion, BBC3 and cyclin D1 protein expression levels and enhanced HepG2 cell apoptosis as well as the protein levels of Bcl-2 and caspase-3. miR-222 level in tumors >= 5 cm (maximum) was significantly higher compared with tumors <5 cm (maximum) and was significantly higher in metastatic tumors compared with non-metastatic tumors, while BBC3 level showed the adverse changes.”

According to the news reporters, the research concluded: “The results of the present study suggested that miR-222 inhibitor exerted anti-cancer effects against liver cancer cells, probably by targeting the 3 untranslated region (UTR) of BBC3.”

For more information on this research see: miRNA-222 promotes liver cancer cell proliferation, migration and invasion and inhibits apoptosis by targeting BBC3. International Journal of Molecular Medicine, 2018;42(1):141-148. International Journal of Molecular Medicine can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.

Our news correspondents report that additional information may be obtained by contacting C.S. Dang, China Natl Petr Corp., Cent Hosp, Dept. of Hepatobiliary Surg, Langfang 065000, Hebei, People’s Republic of China. Additional authors for this research include J.W. Sun, B. Liu, M.J. Zhao, E.T. Xing and Z.C. Liu.

Keywords for this news article include: Hebei, People’s Republic of China, Asia, Enzymes and Coenzymes, Health and Medicine, Cellular Physiology, miRNA-Based Therapy, Drugs and Therapies, Cell Proliferation, Biotechnology, Liver Cancer, Apoptosis, Oncology, Genetics, Caspase, Central Hospital.

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Oncology - Pancreatic Cancer

Reports from National Cancer Institute Provide New Insights into Pancreatic Cancer (Loss of PDPK1 abrogates resistance to gemcitabine in label-retaining pancreatic cancer cells)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Oncology - Pancreatic Cancer is the subject of a report. According to news reporting out of Bethesda, Maryland, by NewsRx editors, research stated, “Label-retaining cancer cells (LRCC) have been proposed as a model of slowly cycling cancer stem cells (CSC) which mediate resistance to chemotherapy, tumor recurrence, and metastasis. The molecular mechanisms of chemoresistance in LRCC remain to-date incompletely understood.”

Our news journalists obtained a quote from the research from National Cancer Institute, “This study aims to identify molecular targets in LRCC that can be exploited to overcome resistance to gemcitabine, a standard chemotherapy agent for the treatment of pancreas cancer. LRCC were isolated following Cy5-dUTP staining by flow cytometry from pancreatic cancer cell lines. Gene expression profiles obtained from LRCC, non-LRCC (NLRCC), and bulk tumor cells were used to generate differentially regulated pathway networks. Loss of upregulated targets in LRCC on gemcitabine sensitivity was assessed via RNAi experiments and pharmacological inhibition. Expression patterns of PDPK1, one of the upregulated targets in LRCC, was studied in patients tumor samples and correlated with pathological variables and clinical outcome. LRCC are significantly more resistant to gemcitabine than the bulk tumor cell population. Non-canonical EGF (epidermal growth factor)-mediated signal transduction emerged as the top upregulated network in LRCC compared to non-LRCC, and knock down of EGF signaling effectors PDPK1 (3-phosphoinositide dependent protein kinase-1), BMX (BMX non-receptor tyrosine kinase), and NTRK2 (neurotrophic receptor tyrosine kinase 2) or treatment with PDPK1 inhibitors increased growth inhibition and induction of apoptosis in response to gemcitabine. Knockdown of PDPK1 preferentially increased growth inhibition and reduced resistance to induction of apoptosis upon gemcitabine treatment in the LRCC vs non-LRCC population. These findings are accompanied by lower expression levels of PDPK1 in tumors compared to matched uninvolved pancreas in surgical resection specimens and a negative association of membranous localization on IHC with high nuclear grade (p <0.01). Pancreatic cancer cell-derived LRCC are relatively resistant to gemcitabine and harbor a unique transcriptomic profile compared to bulk tumor cells.”

According to the news editors, the research concluded: “PDPK1, one of the members of an upregulated EGF-signaling network in LRCC, mediates resistance to gemcitabine, is found to be dysregulated in pancreas cancer specimens, and might be an attractive molecular target for combination therapy studies.”


Our news journalists report that additional information may be obtained by contacting U. Rudloff, National Cancer Institute, Rare Tumor Initiat, Canc Canc Res, Bethesda, MD 20892, United States. Additional authors for this research include J.E. Mullinax, T. Aiken, H.W. Xin, G. Wiegand, A. Anderson, S. Thorgeirsson, I. Avital and D.D. Li.

Keywords for this news article include: Bethesda, Maryland, United States, North and Central America, Radiation-Sensitizing Agents, Immunosuppressive Agents, Enzymes and Coenzymes, Pancreatic Neoplasms, Drugs and Therapies, Health and Medicine, Gemcitabine Therapy, Pancreas Research, Pancreatic Cancer, Gastroenterology, Tyrosine Kinase, Pharmaceuticals, Antineoplastics, Antimetabolites, Proteomics, Antivirals, Proteins, Oncology, National Cancer Institute.
Findings on Non-Small Cell Lung Cancer Described by D.R. McGowan and Colleagues

(Whole tumor kinetics analysis of F-18-fluoromisonidazole dynamic PET scans of non-small cell lung cancer patients, and correlations with perfusion CT blood flow)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Research findings on Oncology - Non-Small Cell Lung Cancer are discussed in a new report. According to news originating from Oxford, United Kingdom, by NewsRx correspondents, research stated, “To determine the relative abilities of compartment models to describe time-courses of F-18-fluoromisonidazole (FMISO) tumor uptake in patients with advanced stage non-small cell lung cancer (NSCLC) imaged using dynamic positron emission tomography (dPET), and study correlations between values of the blood flow-related parameter K-1 obtained from fits of the models and an independent blood flow measure obtained from perfusion CT (pCT). NSCLC patients had a 45-min dynamic FMISO PET/CT scan followed by two static PET/CT acquisitions at 2 and 4-h post-injection.”

Our news journalists obtained a quote from the research, “Perfusion CT scanning was then performed consisting of a 45-s cine CT. Reversible and irreversible two-, three-and four-tissue compartment models were fitted to 30 time-activity-curves (TACs) obtained for 15 whole tumor structures in 9 patients, each imaged twice. Descriptions of the TACs provided by the models were compared using the Akaike and Bayesian information criteria (AIC and BIC) and leave-one-out cross-validation. The precision with which fitted model parameters estimated ground-truth uptake kinetics was determined using statistical simulation techniques. Blood flow from pCT was correlated with K-1 from PET kinetic models in addition to FMISO uptake levels. An irreversible three-tissue compartment model provided the best description of whole tumor FMISO uptake time-courses according to AIC, BIC, and cross-validation scores totaled across the TACs. The simulation study indicated that this model also provided more precise estimates of FMISO uptake kinetics than other two-and three-tissue models. The K-1 values obtained from fits of the irreversible three-tissue model correlated strongly with independent blood flow measurements obtained from pCT (Pearson r coefficient = 0.81). The correlation from the irreversible three-tissue model (r = 0.81) was stronger than that from than K-1 values obtained from fits of a two-tissue compartment model (r = 0.68), or FMISO uptake levels in static images taken at time-points from tracer injection through to 4 h later (maximum at 2 min, r = 0.70). Time-courses of whole tumor FMISO uptake by advanced stage NSCLC are described best by an irreversible three-tissue compartment model.”

According to the news editors, the research concluded: “The K-1 values obtained from fits of the irreversible three-tissue model correlated strongly with independent blood flow measurements obtained from perfusion CT (r = 0.81).”

For more information on this research see: Whole tumor kinetics analysis of F-18-fluoromisonidazole dynamic PET scans of non-small cell lung cancer patients, and correlations with perfusion CT blood flow. EJNMMI Research, 2018;8():1-10. EJNMMI Research can be contacted at: Springeropen, Campus, 4 Crinan St, London, N1 9XW, England. (BioMed Central - http://www.biomedcentral.com/; EJNMMI Research - www.ejnm三位一体.com)

The news correspondents report that additional information may be obtained from D.R. McGowan, Oxford Univ Hosp NHS Fdn Trust, Radiat Phys & Protect, Oxford, United Kingdom. Additional authors for this research include M. Skwarski, B.W. Papiez, R.E. Macpherson, F.V. Gleeson, J.A. Schnabel, G.S. Higgins and J.D. Fenwick.
Cell Proliferation

Findings from University of Jinan Has Provided New Data on Cell Proliferation (A novel regulatory circuit of miR-152 and DNMT1 in human bladder cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Cell Proliferation are presented in a new report. According to news originating from Guangdong, People’s Republic of China, by NewsRx correspondents, research stated, “Downregulation of microRNA-152 (miR-152) has been observed in various types of human malignancies, including Bladder cancer (BC). However, the role of miR-152 in the development and progression of BC is still unclear.”

Our news journalists obtained a quote from the research from the University of Jinan, “In our previous study, we identified a functional crosstalk between miR-152 and DNA methyltransferase 1 (DNMT1) involved in Nis-induced malignant transformation. In the present study, we found that the expression of miR-152 was specifically downregulated in BC cells and tissues via the DNA hypermethylation of the miR-152 promoter. The overexpression of miR-152 in BC cells resulted in a reduction of DNMT1, whereas the inhibition of the expression of miR-152 induced an elevated level of DNMT1. Further studies revealed that miR-152 directly downregulated the expression of DNMT1 by targeting the 3-UTR of its transcript in BC cells. In addition, ectopic expression of miR-152 in BC cells significantly inhibited cell proliferation, whereas the inhibition of miR-152 expression led to increased cell proliferation.”

According to the news editors, the research concluded: “These findings indicated a novel regulatory circuit of miR-152/DNMT1 in BC, and more importantly, the combination of miR-152 and DNMT1 may function as promising therapeutic modalities and early biomarkers for BC.”

For more information on this research see: A novel regulatory circuit of miR-152 and DNMT1 in human bladder cancer. Oncology Reports, 2018;40(3):1803-1812. Oncology Reports can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.

The news correspondents report that additional information may be obtained from W.J. Zhang, Jinan Univ, Sch Med, Dept. of Toxicol, Guangzhou 510632, Guangdong, People’s Republic of China. Additional authors for this research include D.F. Qi, J.H. Li, T. Peng, L.Q. Yang, J.H. Yuan, Y.Y. Zhang, Y. Hu, J.L. Su, B.A. Que, M.X. Li, G.R. Zhou, Y.X. Chen, H.Q. Zhang and W.D. Ji.

Keywords for this news article include: Guangdong, People’s Republic of China, Asia, Health and Medicine, Cell Proliferation, Bladder Cancer, Oncology, University of Jinan.

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Oncology - Liver Cancer
Findings from J. Li and Co-Authors in the Area of Liver Cancer Reported (Diagnosis accuracy of serum glypican-3 level in patients with hepatocellular carcinoma: a systematic review with meta-analysis)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Oncology - Liver Cancer. According to news reporting originating from Beijing, People's Republic of China, by NewsRx correspondents, research stated, “Previous studies have evaluated the diagnostic value of serum glypican-3 in patients with hepatocellular carcinoma. However, the results remain inconsistent and even controversial.”

Our news editors obtained a quote from the research, “Thus, the aim of the present meta-analysis was to clarify the diagnostic accuracy of serum glypican-3 for hepatocellular carcinoma. A meta-analysis including 22 studies was performed with 2325 cases and 2280 controls. Relevant studies were searched in the EMBASE, PubMed, and Web of Science databases, covering relevant papers published until November 1, 2017. The quality of the studies was assessed by revised QUADAS tools. Sensitivity, specificity, and other measures were pooled and determined to evaluate the accuracy of serum glypican-3 in the diagnosis of hepatocellular carcinoma by random-effects models. Summary receiver operating characteristic curve (sROC) analysis was performed to summarize the overall test performance. The results showed that the pooled overall diagnostic sensitivity, specificity, and 95% confidence interval (CI) for serum glypican-3 in the diagnosis of hepatocellular carcinoma were 68% (56-79%) and 92% (82-96.0%), respectively. Besides, the summary diagnostic odds ratio and 95% CI for glypican-3 were 23.53 (8.57-64.63). In addition, the area under sROC and 95% CI was 0.87 (0.84-0.90). The major design deficiencies of included studies were differential verification bias, and a lack of clear exclusion and inclusion criteria. The results of this meta-analysis suggested that serum glypican-3 was acceptable as a moderate diagnostic marker in the diagnosis of hepatocellular carcinoma compared with healthy individuals, which could elevate the sensitivity and specificity of diagnosis.”

According to the news editors, the research concluded: “Furthermore, more well-designed studies with large sample sizes are needed to show the effectiveness of glypican-3 in the differential diagnosis of hepatocellular carcinoma.”

For more information on this research see: Diagnosis accuracy of serum glypican-3 level in patients with hepatocellular carcinoma: a systematic review with meta-analysis. The International Journal of Biological Markers, 2018;():1724600818784409.

The news editors report that additional information may be obtained by contacting J. Li, 1 Dept. of Hepatobiliary Surgery, YouAn Hospital Affiliated to Capital Medical University, Beijing, People’s Republic of China. Additional authors for this research include T. Wang, B. Jin, W. Li, Z. Wang, H. Zhang, Y. Song and N. Li.

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Keywords for this news article include: Beijing, People’s Republic of China, Asia, Carcinomas, Diagnostics and Screening, Glycans, Health and Medicine, Heparan Sulfate Proteoglycans, Liver Cancer, Membrane Glycoproteins, Membrane Proteins, Oncology.

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Oncology - Colon Cancer

New Findings from Iwate Medical University in the Area of Colon Cancer Described (Analysis of the expression of cancer-associated fibroblast- and EMT-related proteins in submucosal invasive colorectal cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Colon Cancer. According to news reporting out of Morioka, Japan, by NewsRx editors, research stated, “Recent studies have shown that cancer-associated fibroblasts (CAFs) and the epithelial-mesenchymal transition (EMT) play important roles in the progression and metastasis of CRC. Although prediction of lymph node metastasis in submucosal invasive colorectal cancer (SiCRC) is important, the relationships of CAF and EMT with lymph node metastasis of SiCRC have not yet been examined.”

Our news journalists obtained a quote from the research from Iwate Medical University, “Here, we aimed to analyze the expression patterns of CAF-and EMT-related proteins in SiCRC. The expression of CAF-related markers, including a-smooth muscle actin, CD10, podoplanin, fibroblast specific protein 1, and adipocyte enhancer-binding protein 1, and EMT-related proteins [zinc finger protein SNAI2 (ZEB1) and twist-related protein 1 (TWIST1) in SiCRC with (n=29) or without (n=80) lymph node metastasis was examined by immunohistochemistry. We examined the expression patterns of biomarkers using hierarchical cluster analysis. Consequently, four subgroups were established based on the expression patterns of CAF- and EMT-related markers, and the associations of these subgroups with clinicopathological variables. In multivariate analysis, subgroup 2, which was characterized by high expression of all markers, was correlated with lymph node metastasis (<0.01). Next, we examined the associations of individual biomarkers with lymph node metastasis. Multivariate analysis showed that moderately differentiated adenocarcinoma was significantly associated with lymph node metastasis ( <0.05).”

According to the news editors, the research concluded: “Our findings showed that expression patterns of CAF markers and EMT-related proteins may allow for stratification of patients into risk categories for lymph node metastasis in SiCRC.”


Our news journalists report that additional information may be obtained by contacting T. Sugai, Dept. of Molecular Diagnostic Pathology, School of Medicine, Iwate Medical University, 19-1, Morioka 020-8505, Japan. Additional authors for this research include N. Uesugi, Y. Kitada, N. Yamada, M. Osakabe, M. Eizuka, R. Sugimoto, Y. Fujita, K. Kawasaki, E. Yamamoto, H. Yamano, H. Suzuki and T. Matsumoto.

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Keywords for this news article include: Morioka, Japan, Asia, Biomarkers, Colon Cancer, Colorectal Research, Connective Tissue Cells, Diagnostics and Screening, Fibroblasts, Gastroenterology, Health and Medicine, Hemic and Immune Systems, Immunology, Lymph Nodes, Lymphoid Tissue, Oncology.

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Surgery - Radical Cystectomy

New Radical Cystectomy Findings from University of Sheffield Described [Robot-assisted radical cystectomy with intracorporeal urinary diversion versus open radical cystectomy (iROC): protocol for a randomised controlled trial with internal ...]

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Surgery - Radical Cystectomy. According to news originating from Sheffield, United Kingdom, by NewsRx correspondents, research stated, “Bladder cancer (BC) is a common malignancy and one of the most expensive to manage. Radical cystectomy (RC) with pelvic lymphadenectomy is a gold standard treatment for high-risk BC.”

Our news journalists obtained a quote from the research from the University of Sheffield, “Reductions in morbidity and mortality from RC may be achieved through robot-assisted RC (RARC). Prospective comparisons between open RC (ORC) and RARC have been limited by sample size, use of extracorporeal reconstruction and use of outcomes important for ORC. Conversely, while RARC is gaining in popularity, there is little evidence to suggest it is superior to ORC. We are undertaking a prospective randomised controlled trial (RCT) to compare RARC with intracorporeal reconstruction (iRARC) and ORC using multimodal outcomes to explore qualitative and quantitative recovery after surgery. iROC is a multicentre prospective RCT in English National Health Service (NHS) cancer centres. We will randomise 320 patients undergoing RC to either iRARC or ORC. Treatment allocation will occur after trial entry and consent. The primary outcome is days alive and out of hospital within the first 90 days from surgery. Secondary outcomes will measure functional recovery (activity trackers, chair-to-stand tests and health related quality of life (HRQOL) questionnaires), morbidity (complications and readmissions), cost-effectiveness (using EuroQol-5 Domain-5 levels (EQ-5D-5L) and unit costs) and surgeon fatigue. Patients will be analysed according to intention to treat. The primary outcome will be transformed and analysed using regression. All statistical assumptions will be investigated. Secondary outcomes will be analysed using appropriate regression methods. An internal feasibility study of the first 30 patients will evaluate recruitment rates, acceptance of randomised treatment choice, compliance outcome collection and to revise our sample size. The study has ethical approval (REC reference 16/NE/0418).”

According to the news editors, the research concluded: “Findings will be made available to patients, clinicians, funders and the NHS through peer-reviewed publications, social media and patient support groups. ISRCTN13680280 and NCT03049410.”

For more information on this research see: Robot-assisted radical cystectomy with intracorporeal urinary diversion versus open radical cystectomy (iROC): protocol for a randomised controlled trial with internal feasibility study. Bmj Open, 2018;8(8):e020500. (BMJ Publishing Group - http://group.bmj.com/; Bmj Open - http://bmjopen.bmj.com/)

The news correspondents report that additional information may be obtained from J.W.F. Catto, Academic Urology Unit, University of Sheffield, Sheffield, UK. Additional authors for this research include P. Khetrapal, G. Ambler, R. Sarpong, M.S. Khan, M. Tan, A. Feber, S. Dixon, L. Goodwin, N.R. Williams, J. McGrath, E. Rowe, A. Koupparis, C. Brew-Graves and J.D Kelly.

Keywords for this news article include: Sheffield, United Kingdom, Europe, Clinical Research, Clinical Trials and Studies, Emerging Technologies, Health and Medicine, Machine Learning, Radical Cystectomy, Robotics, Surgery, Urinary Diversion, Urologic Surgical Procedures.

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Recent Studies from Keio University School of Medicine Add New Data to Steroid Receptors [Function and structural regulation of the carbon monoxide (CO)-responsive membrane protein PGRMC1]

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Research findings on Proteins - Steroid Receptors are discussed in a new report. According to news originating from Tokyo, Japan, by NewsRx correspondents, research stated, “Progesterone receptor membrane associated component 1 is a multifunctional heme-binding protein that plays a role in several biological processes such as tumor progression, metabolic regulation, and viability control of nerve cells. Notably, progesterone receptor membrane associated component 1 is highly expressed in various types of cancer cells, and facilitates cancer proliferation and chemoresistance.”

Our news journalists obtained a quote from the research from the Keio University School of Medicine, “Recently, progesterone receptor membrane associated component 1 structure has been explored by X-ray crystallographic analysis. Interestingly, whereas apo-progesterone receptor membrane associated component 1 exists as a monomer, the heme-bound progesterone receptor membrane associated component 1 converts into a stable dimer by forming a unique heme-heme stacking structure, leading to activation of epidermal growth factor receptor signaling and chemoresistance in cancer cells. Furthermore, the gas mediator carbon monoxide inhibits progesterone receptor membrane associated component 1-mediated activation in cancer cells by dissociating the heme-stacking dimer of progesterone receptor membrane associated component 1.”

According to the news editors, the research concluded: “The dynamic structural regulation of progesterone receptor membrane associated component 1 will provide new insights for understanding the mechanisms underlying its various functions.”


The news correspondents report that additional information may be obtained from Y. Kabe, Dept. of Biochemistry, Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ku, Tokyo 160-8582, Japan. Additional authors for this research include H. Handa and M. Suematsu.

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Keywords for this news article include: Tokyo, Japan, Asia, Anions, Biological Factors, Cancer, Carbon Monoxide, Chemicals, Corpus Luteum Hormones, DNA Binding Proteins, Health and Medicine, Heme, Inorganic Carbon Compounds, Membrane Proteins, Metalloporphyrins, Oncology, Oxides, Progesterone Receptors, Steroid Receptors, Transcription Factors.

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**Oncology - Liver Cancer**

**New Findings from Guangxi Medical University in the Area of Liver Cancer Reported (Comprehensive and Integrative Analysis Reveals the Diagnostic, Clinicopathological and Prognostic Significance of Polo-Like Kinase 1 in Hepatocellular Carcinoma)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Liver Cancer have been presented. According to news reporting from Nanning, People’s Republic of China, by NewsRx journalists, research stated, “Liver cancer has the second highest cancer-related death rate globally and has relatively few targeted therapeutics. Polo-like kinase 1 (PLK1) is a fascinating trigger of the cell cycle; however, the still-rudimentary understanding of PLK1 at present is a significant barrier to its clinical applications.”

The news correspondents obtained a quote from the research from Guangxi Medical University, “Here, we comprehensively clarified the clinicopathological value and potential functions of PLK1 in hepatocellular carcinoma (HCC). HCC-related microarrays, RNA-sequencing datasets and published studies were deeply mined and integrated from The Cancer Genome Atlas, Gene Expression Omnibus, ArrayExpress, Oncomine, literature databases, and immunohistochemistry experiments. Meanwhile, the associations between PLK1 expression and its clinicopathological implications and prognostic value in HCC patients were assessed. The standardized mean difference, summary receiver operating characteristic curve and the corresponding area under the curve, hazard ratios, odds ratios (ORs), and their 95% confidence intervals (CIs) were examined by STATA 12.0. Additionally, several bioinformatics methods were used to identify the potential function of PLK1 in HCC. Comprehensive analyses revealed that PLK1 was significantly increased in HCC (standardized mean difference = 1.34, 95% CI: 1.03-1.65, P<0.001). The results of diagnostic tests specified that in the summary receiver operating characteristic curve, the area under the curve was 0.88 (95% CI: 0.85-0.90). Furthermore, an elevated PLK1 level significantly predicted unfavorable overall survival (hazard ratio = 1.78, 95% CI: 1.10-2.88, P = 0.019) and was correlated with female gender (OR = 0.73, 95% CI: 0.56-0.95, P = 0.017), tumor thrombus (OR = 3.97, 95% CI: 1.46-10.78, P<0.001), metastasis (OR = 3.46, 95% CI: 1.33-9.01, P = 0.011), pathologic stage (OR = 1.56, 95% CI: 1.17-2.07, P = 0.002), Barcelona Clinic Liver Cancer stage (OR = 5.76, 95% CI: 2.17-15.28, P<0.001) and histologic grade (OR = 2.33, 95% CI: 1.12-4.87, P = 0.024). Through bioinformatics methods, we determined that enhancing the proliferative effect of PLK1 in HCC was associated with a series of hub genes and the activation P. Lin, D.-y. Wen contributed equally to this work. of the cell cycle pathway.”

According to the news reporters, the research concluded: “These findings substantiated that PLK1 may be an independent prognostic biomarker in HCC and may facilitate the development of targeted precision oncology.”


Our news journalists report that additional information may be obtained by contacting H. Yang, Guangxi Med Univ, Affiliated Hosp 1, Dept. of Med Ultrason, Nanning, People’s Republic of China. Additional authors for this research include D.Y. Wen, Y.W. Dang, Y. He, P. Lin and G. Chen.

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Oncology - Colon Cancer

Study Data from Shenzhen People’s Hospital Provide New Insights into Colon Cancer (Dual targeting delivery of miR-328 by functionalized mesoporous silica nanoparticles for colorectal cancer therapy)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Colon Cancer. According to news reporting out of Shenzhen, People’s Republic of China, by NewsRx editors, research stated, “We aim to explore the regulatory mechanism of miR-328 and further develop miR-328-loaded mesoporous silica nanoparticles (MSNs) and surface-decorated with polymerized dopamine, epithelial cell adhesion molecule aptamer and bevacizumab for the dual-targeting treatment of colorectal cancer (CRC). The relationship between miR-328 and CPTP and the mechanism and antitumor effect of MSNs-miR-328@PDA-PEG-Apt-Bev were evaluated.”

Our news journalists obtained a quote from the research from Shenzhen People’s Hospital, “We found CPTP is a direct target of miR-328. Compared with other groups, MSNs-miR-328@PDA-PEG-Apt-Bev can significantly increase the level of miR-328 and inhibit the expression of CPTP in SW480 cells. The results exhibit this multifunctional bioconjugates can achieve an increased binding ability and much higher cytotoxicity to CRC both in vitro and in vivo.”

According to the news editors, the research concluded: “This multifunctional nanoplatform is a promising miRNA replacement therapy for CRC.”

For more information on this research see: Dual targeting delivery of miR-328 by functionalized mesoporous silica nanoparticles for colorectal cancer therapy. Nanomedicine, 2018;():. (Elsevier - www.elsevier.com; Nanomedicine - http://www.journals.elsevier.com/nanomedicine-nanotechnology-biology-and-medicine/)

Our news journalists report that additional information may be obtained by contacting Y. Li, Dept. of Hepatobiliary & Pancreas Surgery, Second Clinical Medical College of Jinan University, Shenzhen People’s Hospital, Shenzhen 518020, People’s Republic of China. Additional authors for this research include Y. Duo, P. Zhai, L. He, K. Zhong, Y. Zhang, K. Huang, J. Luo, H. Zhang and X. Yu.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.2217/nnm-2017-0353. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Shenzhen, People’s Republic of China, Asia, Cancer Therapy, Colon Cancer, Colorectal Research, Drugs and Therapies, Emerging Technologies, Gastroenterology, Health and Medicine, Nanoparticle, Nanotechnology, Oncology, Silicon Nanocrystals.
Drugs and Therapies - Personalized Medicine

Study Data from Stony Brook University Update Knowledge of Personalized Medicine (Development of Patient-Derived Gastric Cancer Organoids from Endoscopic Biopsies and Surgical Tissues)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Drugs and Therapies - Personalized Medicine have been presented. According to news reporting originating in New York City, New York, by NewsRx journalists, research stated, “Organoids are three-dimensional in vitro models of human disease developed from benign and malignant gastrointestinal tissues with tremendous potential for personalized medicine applications. We sought to determine whether gastric cancer patient-derived organoids (PDOs) could be safely established from endoscopic biopsies for rapid drug screening.”

The news reporters obtained a quote from the research from Stony Brook University, “Patients underwent esophagogastroduodenoscopy (EGD) for surveillance or staging and had additional forceps biopsies taken for PDO creation. Cancer tissues from operative specimens were also used to create PDOs. To address potential tumor heterogeneity, we performed low-coverage whole-genome sequencing of endoscopic-derived PDOs with paired surgical PDOs and whole-tumor lysates. The stability of genomic alterations in endoscopic organoids was assessed by next-generation sequencing and nested polymerase chain reaction (PCR) assay. The feasibility and potential accuracy of drug sensitivity screening with endoscopic-derived PDOs were also evaluated. Gastric cancer PDOs (n = 15) were successfully established from EGD forceps biopsies (n = 8) and surgical tissues (n = 7) from five patients with gastric adenocarcinoma. Low-coverage whole-genomic profiling of paired EGD and surgical PDOs along with whole-tumor lysates demonstrated absence of tumor heterogeneity. Nested PCR assay identified similar KRAS alterations in primary tumor and paired organoids. Drug sensitivity testing of endoscopic-derived PDOs displayed standard dose-response curves to current gastric cancer cytotoxic therapies. Our study results demonstrate the feasibility of developing gastric cancer PDOs from EGD biopsies.”

According to the news reporters, the research concluded: “These results also indicate that endoscopic-derived PDOs are accurate surrogates of the primary tumor and have the potential for drug sensitivity screening and personalized medicine applications.”

For more information on this research see: Development of Patient-Derived Gastric Cancer Organoids from Endoscopic Biopsies and Surgical Tissues. Annals of Surgical Oncology, 2018;25(9):2767-2775. Annals of Surgical Oncology can be contacted at: Springer, 233 Spring St, New York, NY 10013, USA. (Springer - www.springer.com; Annals of Surgical Oncology - http://www.springerlink.com/content/1068-9265/)


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Keywords for this news article include: New York City, New York, United States, North and Central America, Diagnostics and Screening, Personalized Medicine, Personalized Therapy, Health and Medicine, Drugs and Therapies, Gastroenterology, Gastric Cancer, Epidemiology, Oncology, Surgery, Stony Brook University.

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Mental Health
New Mental Health Study Results from University of Bern Described (Health-related quality of life in adolescent and young adult cancer survivors)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Mental Health have been published. According to news originating from Bern, Switzerland, by NewsRx correspondents, research stated, “Today, survival rates for adolescent and young adult (AYA) cancer patients exceed 80%. However, cancer and treatment leave many patients suffering from chronic conditions.”

Financial supporters for this research include Schweizerischer Nationalfonds zur Forderung der Wissenschaftlichen Forschung, Krebsforschung Schweiz.

Our news journalists obtained a quote from the research from the University of Bern, “These late effects may impair their health-related quality of life (HRQoL). We aimed to (1) compare HRQoL of AYA cancer survivors with the Swiss general population and (2) investigate socio-demographic and cancer-related characteristics associated with poor HRQoL. AYA cancer survivors (age 16-25 at diagnosis; ae <yen >5 years survival) who had been identified through the Cancer Registry Zurich and Zug, Switzerland, filled out a questionnaire. We assessed HRQoL using the Short-Form 12 (SF-12), producing two scores: Physical Component Summary score (PCS, physical health) and Mental Component Summary score (MCS, mental health). We used multivariable logistic regression analyses to investigate associated characteristics. We compared 155 survivors with 350 controls. Survivors had significantly lower physical health than controls (mean = 52.5 vs. mean = 54.7, p<0.001). Male survivors reported better mental health than controls (55.2 vs.53.3, p = 0.078) and females slightly worse (49.8 vs. 51.8, p = 0.285). Poor physical health was strongly associated with having a migration background (OR = 4.63, p = 0.008) and unemployment (OR = 7.66, p = 0.005). Poor mental health was associated with female sex (OR = 2.69, p = 0.057), suffering from late effects (OR = 5.91, p<0.001) and a migration background (OR = 5.82, p = 0.004). Results emphasize the need for individualized support services to improve survivors’ HRQoL in vulnerable subgroups.”

According to the news editors, the research concluded: “We recommend adapted care for women and migrants, in addition to educational and employment support systems.”

For more information on this research see: Health-related quality of life in adolescent and young adult cancer survivors. Supportive Care in Cancer, 2018;26(9):3099-3110. Supportive Care in Cancer can be contacted at: Springer, 233 Spring St, New York, NY 10013, USA. (Springer - www.springer.com; Supportive Care in Cancer - http://www.springerlink.com/content/0941-4355/)

The news correspondents report that additional information may be obtained from G. Michel, University of Bern, Inst Social & Prevent Med, CH-3012 Bern, Switzerland. Additional authors for this research include K. Roser, S. Dehler and E. Harju.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s00520-018-4151-z. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Bern, Switzerland, Europe, Health and Medicine, Quality of Life, Mental Health, Epidemiology, Oncology, Cancer, University of Bern.

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Pharmacology - Pharmacokinetics

New Pharmacokinetics Findings Reported from Prairie View A&M University (Multiscale Tumor Modeling With Drug Pharmacokinetic and Pharmacodynamic Profile Using Stochastic Hybrid System)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Pharmacology - Pharmacokinetics is now available. According to news reporting originating from Prairie View, Texas, by NewsRx correspondents, research stated, “Effective cancer treatment strategy requires an understanding of cancer behavior and development across multiple temporal and spatial scales. This has resulted into a growing interest in developing multiscale mathematical models that can simulate cancer growth, development, and response to drug treatments.”

Our news editors obtained a quote from the research from Prairie View A&M University, “This study thus investigates multiscale tumor modeling that integrates drug pharmacokinetic and pharmacodynamic (PK/PD) information using stochastic hybrid system modeling framework. Specifically, (1) pathways modeled by differential equations are adopted for gene regulations at the molecular level; (2) cellular automata (CA) model is proposed for the cellular and multicellular scales. Markov chains are used to model the cell behaviors by taking into account the gene expression levels, cell cycle, and the microenvironment. The proposed model enables the prediction of tumor growth under given molecular properties, microenvironment conditions, and drug PK/PD profile.”

According to the news editors, the research concluded: “Simulation results demonstrate the effectiveness of the proposed approach and the results agree with observed tumor behaviors.”

For more information on this research see: Multiscale Tumor Modeling With Drug Pharmacokinetic and Pharmacodynamic Profile Using Stochastic Hybrid System. Cancer Informatics, 2018;17():1176935118790262.

The news editors report that additional information may be obtained by contacting W.O. Oduola, Dept. of Electrical and Computer Engineering (ECE), Prairie View A&M University, Prairie View, TX, United States.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1177/1176935118790262. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Prairie View, Texas, United States, North and Central America, Cancer, Drugs and Therapies, Health and Medicine, Oncology, Pharmaceuticals, Pharmacodynamics, Pharmacokinetics, Pharmacology.

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Trichoepitheliomas

New Findings in Trichoepitheliomas Described from Department of Dermatology (A case of multiple familial trichoepitheliomas responding to treatment with the Hedgehog signaling pathway inhibitor vismodegib)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Trichoepitheliomas is now available. According to news reporting originating in Nurnberg, Germany, by NewsRx journalists, research stated, “Multiple familial trichoepitheliomas (MFT) is an autosomal
dominantly inherited disease characterized by multiple skin appendage tumors. We describe a patient showing a continuous spectrum of follicular differentiated neoplasms including classical trichoepitheliomas but also infiltrative growing and finally metastasizing malignant follicular differentiated tumors.”

The news reporters obtained a quote from the research from the Department of Dermatology, “Germline mutation analysis revealed a nonsense mutation in the cylindromatosis (CYLD) gene. Gene expression analysis by real-time PCR of tumor tissue showed overexpression of glioma-associated oncogene Gli1 mRNA. Treatment with the Hedgehog pathway inhibitor vismodegib resulted in a significant regression of the highly differentiated trichoepitheliomas. Gli1 upregulation is indicative of an active Hedgehog signaling pathway. We hypothesize that its upregulation is indirectly caused by CYLD mutation which promotes tumor development.”

According to the news reporters, the research concluded: “Vismodegib treatment could thus provide a new treatment option for patients with this debilitating disorder.”


Our news correspondents report that additional information may be obtained by contacting V. Baur, Paracelsus Med Univ Nuremberg, Dept. of Dermatol, D-90419 Nurnberg, Germany. Additional authors for this research include T. Papadopoulos, D.V. Kazakov, A. Agaimy, A. Hartmann, G. Isbary, R.M. Wirtz and E.S. Schultz.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s00428-018-2397-y. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Nurnberg, Germany, Europe, Health and Medicine, Trichoepitheliomas, Genetics, Department of Dermatology.

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**Proteins - Lectins**

Researchers at National Yang Ming University Target Lectins (HSP40 co-chaperone protein Tid1 suppresses metastasis of head and neck cancer by inhibiting Galectin-7-TCF3-MMP9 axis signaling)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Proteins - Lectins. According to news reporting out of Taipei, Taiwan, by NewsRx editors, research stated, “Human tumorous imaginal disc (Tid1), a DnaJ co-chaperone protein, is classified as a tumor suppressor. Previously, we demonstrated that Tid1 reduces head and neck squamous cell carcinoma (HNSCC) malignancy.”

Our news journalists obtained a quote from the research from National Yang Ming University, “However, the molecular details of Tid1-mediated anti-metastasis remain elusive. We used affinity chromatography and systemic mass spectrometry to identify Tid1-interacting client proteins. Immunohistochemical staining of Tid1 in HNSCC patient tissues was examined to evaluate the association between the expression profile of Tid1-interacting client proteins with pathologic features and prognosis. The roles of Tid1-interacting client proteins in metastasis were validated both in and in. The interacting partner and downstream target of Tid1-interacting client protein were determined. Herein, we first revealed that Galectin-7 was one of the Tid1-interacting client proteins. An inverse association of protein expression profile between Tid1
and Galectin-7 was determined in HNSCC patients. Low Tid1 and high Galectin-7 expression predicted poor overall survival in HNSCC. Furthermore, Tid1 abolished the nuclear translocation of Galectin-7 and suppressed Galectin-7-induced tumorigenesis and metastasis. Keratinocyte-specific Tid1-deficient mice with 4-nitroquinoline-1-oxide (4NQO) treatment exhibited increased protein levels of Galectin-7 and had a poor survival rate. Tid1 interacted with Galectin-7 through its N-linked glycosylation to promote Tid1-mediated ubiquitination and proteasomal degradation of Galectin-7. Additionally, Galectin-7 played a critical role in promoting tumorigenesis and metastatic progression by enhancing the transcriptional activity of TCF3 transcription factor through elevating MMP-9 expression.

According to the news editors, the research concluded: “Overall, future treatments through activating Tid1 expression or inversely repressing the oncogenic function of Galectin-7 may exhibit great potential in targeting HNSCC progression.”

For more information on this research see: HSP40 co-chaperone protein Tid1 suppresses metastasis of head and neck cancer by inhibiting Galectin-7-TCF3-MMP9 axis signaling. Theranostics, 2018;8(14):3841-3855.

Pneumocytes
Reports Outline Pneumocytes Findings from Seoul National University (AHNAK Loss in Mice Promotes Type II Pneumocyte Hyperplasia and Lung Tumor Development)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Pneumocytes are presented in a new report. According to news reporting out of Seoul, South Korea, by NewsRx editors, research stated, “AHNAK is known to be a tumor suppressor in breast cancer due to its ability to activate the TGF beta signaling pathway. However, the role of AHNAK in lung tumor development and progression remains unknown.”

Financial support for this research came from National Research Foundation.

Our news journalists obtained a quote from the research from Seoul National University, “Here, the Ahnak gene was disrupted to determine its effect on lung tumorigenesis and the mechanism by which it triggers lung tumor development was investigated. First, AHNAK protein expression was determined to be decreased in human lung adenocarcinomas compared with matched nonneoplastic lung tissues. Then, Ahnak(-/-) mice were used to investigate the role of AHNAK in pulmonary tumorigenesis. Ahnak(-/-) mice showed increased lung volume and thicker alveolar walls with type II pneumocyte hyperplasia. Most importantly, approximately 20% of aged Ahnak(-/-) mice developed lung tumors, and Ahnak(-/-) mice were more susceptible to urethane-induced pulmonary carcinogenesis than wild-type mice. Mechanistically, Ahnak deficiency promotes the cell growth of lung epithelial cells by suppressing the TGF beta signaling pathway. In addition, increased numbers of M2-like alveolar macrophages (AM) were observed in Ahnak(-/-) mice. The direct object identifier (DOI) for that additional information is: https://doi.org/10.7150/thno.25784. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Taipei, Taiwan, Asia, Antiparasitics, Galectins, Head and Neck Cancer, Head and Neck Neoplasms, Health and Medicine, Lectins, Oncology, Proteins.

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lungs, and the depletion of AMs in Ahnak(-/-) lungs alleviated lung hyperplastic lesions, suggesting that M2-like AMs promoted the progression of lung hyperplastic lesions in Ahnak-null mice. Collectively, AHNAK suppresses type II pneumocyte proliferation and inhibits tumor-promoting M2 alternative activation of macrophages in mouse lung tissue."

According to the news editors, the research concluded: “These results suggest that AHNAK functions as a novel tumor suppressor in lung cancer.”

For more information on this research see: AHNAK Loss in Mice Promotes Type II Pneumocyte Hyperplasia and Lung Tumor Development. *Molecular Cancer Research*, 2018;16(8):1287-1298. *Molecular Cancer Research* can be contacted at: Amer Assoc Cancer Research, 615 Chestnut St, 17TH Floor, Philadelphia, PA 19106-4404, USA. (American Association for Cancer Research - www.aacr.com; Molecular Cancer Research - [http://mcr.aacrjournals.org/](http://mcr.aacrjournals.org/))


The direct object identifier (DOI) for that additional information is: [https://doi.org/10.1158/1541-7786.MCR-17-0726](https://doi.org/10.1158/1541-7786.MCR-17-0726). This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Seoul, South Korea, Asia, Pneumocytes, Seoul National University.

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**Oncology - Colon Cancer**

**Recent Findings by I.D. Gkegges and Colleagues in Colon Cancer Provides New Insights (Dermatomyositis and colorectal cancer: a systematic review)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Colon Cancer. According to news reporting out of Athens, Greece, by NewsRx editors, research stated, “Dermatomyositis (DM) is an idiopathic inflammatory myositis. The principal characteristics are cutaneous rash, muscle ache, and muscle weakness.”

Our news journalists obtained a quote from the research, “In the past, associations have been established between DM and malignancy, including colorectal cancer. A systematic PubMed and Scopus search was conducted. The median age of the patients was 65 years (range 40-82). The majority were female (17 out of 27, 63%). Adenocarcinoma was the most frequent histological type of colorectal neoplasm. DM manifested before the diagnosis of colorectal cancer in 21 out of 27 patients (77.8%). At the time of the first presentation, creatine kinase was at a median level of 514.5 U/L (range 50-11,744), and serum antibodies were present in 11 out of 27 patients (40.7%). Immediate improvement of DM symptoms after surgery occurred in 14 out of 26 patients (53.8%). Recurrence of cancer in the form of distal metastasis was present in 5 out of 26 patients (19.2%). Cancer recurrence occurred within a median of 7.9 months (range 221) after surgery. In 7 out of 26 patients (26.9%), DM symptoms recurred during the post-operative period. Death was reported in 23 out of 27 patients (85.2%). It is of paramount importance to perform a systematic diagnostic workup for malignancy, always including colonoscopy, in DM patients, since there is a high incidence of cancer in DM patients.”

According to the news editors, the research concluded: “Surgical treatment of colorectal tumors should precede the treatment of DM, as DM will frequently regress after a successful resection of malignancy.”

Our news journalists report that additional information may be obtained by contacting I.D. Gkegkes, Gen Hosp Attica KAT, Dept. of Surg 1, Athens 14232, Greece. Additional authors for this research include E.E. Minis and C. Iavazzo.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s11845-017-1716-7. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Athens, Greece, Europe, Skin and Connective Tissue Diseases and Conditions, Musculoskeletal Diseases and Conditions, Nervous System Diseases and Conditions, Neuromuscular Diseases and Conditions, Skin Diseases and Conditions, Health and Medicine, Colorectal Research, Gastroenterology, Dermatomyositis, Rheumatology, Polymyositis, Colon Cancer, Oncology.

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**Oncology - Pancreatic Cancer**

**New Pancreatic Cancer Findings from Department of General Surgery Outlined (MicroRNA-224 Promotes Pancreatic Cancer Cell Proliferation and Migration by Targeting the TXNIP-Mediated HIF1a Pathway)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Pancreatic Cancer have been presented. According to news reporting originating from Shanghai, People’s Republic of China, by NewsRx correspondents, research stated, “MicroRNAs (miRNAs) have been shown to participate in the development of pancreatic ductal adenocarcinoma (PDAC) by modulating multiple cellular processes. Increased miR-224 expression enhances proliferation and metastasis in human cancers.”

Our news editors obtained a quote from the research from the Department of General Surgery, “This study aimed to investigate the role of miR-224 and its underlying mechanism of action in PDAC. BrdU, MTT, and cell migration assays were performed to determine cell proliferation, viability, and migration, respectively. The binding sites of miR-224 were identified using a luciferase reporter system, whereas protein expression of target genes was determined by immunoblotting and immunofluorescence analyses. A BALB/c nude mouse xenograft model was used to evaluate the role of miR-224 in vivo. We demonstrated that miR-224 expression was enhanced in PDAC cells and tissues, and was related to migration and proliferation. Noticeably, miR-224 overexpression promoted the proliferation, migration, and metastasis of Panc1 cells, while miR-224 inhibition had the reverse effect on PDAC cells. Moreover, we found that thioredoxin-interacting protein (TXNIP) is a target of miR-224. The results also indicated that miR-224 inversely regulated TXNIP by binding directly to its 3'-untranslated region, which resulted in the activation of hypoxia-inducible factor 1a (HIF1a). Further, either TXNIP re-expression or HIF1a depletion abolished the effects of miR-224 on the proliferation and migration of PDAC cells in vitro and in vivo. Regarding the relationship of TXNIP and HIF1a, we found that TXNIP mediated the nuclear export of HIF1a and its degradation by forming a complex with HIF1a.”

According to the news editors, the research concluded: “The miR-224-TXNIP-HIF1a axis may be useful in developing novel therapies for PDAC.”

The news editors report that additional information may be obtained by contacting G. Zhu, Dept. of General Surgery, Shanghai Fengxian District Central Hospital, Shanghai, People’s Republic of China. Additional authors for this research include L. Zhou, H. Liu, Y. Shan and X. Zhang.

The direct object identifier (DOI) for that additional information is: [https://doi.org/10.1159/000492309](https://doi.org/10.1159/000492309). This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Shanghai, People’s Republic of China, Asia, Cell Proliferation, Drugs and Therapies, Gastroenterology, Health and Medicine, Oncology, Pancreas, Pancreatic Cancer, Pancreatic Neoplasms, Pharmaceuticals.

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**Cytoskeletal Proteins - Microfilament Proteins**

**Data from Soochow University Advance Knowledge in Microfilament Proteins (Loss of profilin 2 contributes to enhanced epithelial-mesenchymal transition and metastasis of colorectal cancer)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Cytoskeletal Proteins - Microfilament Proteins is the subject of a report. According to news reporting from Jiangsu, People’s Republic of China, by NewsRx journalists, research stated, “Profilin 2 (PFN2) functions as an actin cytoskeleton regulator and serves an important role in cell motility. However, a role for PFN2 in the progression of colorectal cancer (CRC), particularly in metastasis, has yet to be clarified.”

The news correspondents obtained a quote from the research from Soochow University, “The aim of the present study was to investigate whether PFN2 served specific roles in the progression of human CRC. The results demonstrated that PFN2 was differentially expressed in CRC tissues and cell lines by reverse transcription-quantitative polymerase chain reaction and western blotting. PFN2 expression was also negatively associated with the degree of tumor metastasis. Low PFN2 expression in CRC cells was related with enhanced epithelial-mesenchymal transition (EMT) and, in turn, may increase migratory capabilities. Overexpression of PFN2 in CRC cell lines with a low level of endogenous PFN2 inhibited the EMT process, as well as the associated migration; in addition, myosin light chain (MLC) phosphorylation was upregulated. Inhibition of MLC phosphorylation attenuated the inhibition of EMT and cell migratory abilities induced by PFN2 overexpression in CRC cell lines, the results suggested that PFN2 may suppress cancer EMT and the subsequent metastasis by regulating cytoskeletal reorganization.”

According to the news reporters, the research concluded: “These results demonstrated that PFN2 may serve a suppressive role in the metastasis of CRC and therefore may provide a new potential target for cancer therapeutics.”

For more information on this research see: Loss of profilin 2 contributes to enhanced epithelial-mesenchymal transition and metastasis of colorectal cancer. *International Journal of Oncology*, 2018;53(3):1118-1128. *International Journal of Oncology* can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.
Oncology - Liver Cancer

Study Results from Qingdao University Update Understanding of Liver Cancer (Long non-coding RNA TRPM2-AS as a potential biomarker for hepatocellular carcinoma)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Oncology - Liver Cancer is the subject of a report. According to news reporting originating from Shandong, People’s Republic of China, by NewsRx correspondents, research stated, “There is increasing evidence that long noncoding RNAs are involved in hepatocellular carcinoma (HCC) tumorigenesis. The expression level of TRPM2-AS in HCC and its clinical association remain poorly defined.”

Our news editors obtained a quote from the research from Qingdao University, “Method qRT-PCR was performed to detect the expression of TRPM2-AS in 108 HCC patients. The correlations between TRPM2-AS expression and clinicopathological factors and prognosis were evaluated. The inference of TRPM2-AS to the proliferation and apoptosis of HCC cells was detected. The aim of our study was to explore the expression of TRPM2-AS in hepatocellular carcinoma (HCC) and the relation with prognosis and clinical features. The expression of TRPM2-AS was higher in most HCC tissues and was significantly correlated with tumor size, AJCC stage, tumor differentiation, and the prognosis of HCC patients. Interfering TRPM2-AS expression using siRNA significantly inhibited cell proliferation and promoted cell apoptosis in two HCC cell lines.”

According to the news editors, the research concluded: “Long non-coding RNA TRPM2-AS is upregulated in HCC and represents a new biomarker for HCC and the inhibition of TRPM2-AS promotes apoptosis in HCC cells in vitro.”


The news editors report that additional information may be obtained by contacting X. Liu, Qingdao Univ, Coll Med, Affiliated Yantai Yuhuangding Hosp, Dept. of Hepatobiliary & Pancreat Surg, Yantai 264000, Shandong, People’s Republic of China. Additional authors for this research include Q. Huang, C. Zhang, W. Xu, G. Xu, X. Zhao, C. Xu and Y. Du.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s11845-017-1692-y. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Shandong, People’s Republic of China, Asia, Diagnostics and Screening, Health and Medicine, Cellular Physiology, Liver Cancer, Biomarkers, Carcinomas, Apoptosis, Genetics, Oncology, Qingdao University.
Cancer Research
Findings from Columbia University in the Area of Cancer Research Reported (HPV Oncogene Manipulation Using Nonvirally Delivered CRISPR/Cas9 or Natronobacterium gregoryi Argonaute)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Cancer Research is the subject of a report. According to news reporting out of New York City, New York, by NewsRx editors, research stated, “CRISPR/Cas9 technology enables targeted gene editing; yet, the efficiency and specificity remain unsatisfactory, particularly for the nonvirally delivered, plasmid-based CRISPR/Cas9 system. To tackle this, a self-assembled micelle is developed and evaluated for human papillomavirus (HPV) E7 oncogene disruption.”

Our news journalists obtained a quote from the research from Columbia University, “The optimized micelle enables effective delivery of Cas9 plasmid with a transient transgene expression profile, benefiting the specificity of Cas9 recognition. Furthermore, the feasibility of using the micelle is explored for another nucleic acid-guided nuclease system, Natronobacterium gregoryi Argonaute (NgAgo). Both systems are tested in vitro and in vivo to evaluate their therapeutic potential. Cas9-mediated E7 knockout leads to significant inhibition of HPV-induced cancerous activity both in vitro and in vivo, while NgAgo does not show significant E7 inhibition on the xenograft mouse model.”

According to the news editors, the research concluded: “Collectively, this micelle represents an efficient delivery system for nonviral gene editing, adding to the armamentarium of gene editing tools to advance safe and effective precision medicine-based therapeutics.”


Our news journalists report that additional information may be obtained by contacting K.W. Leong, Columbia University, Medical Center, Dept. of Syst Biol, New York, NY 10032, United States. Additional authors for this research include M.Q. Li, M.A. Gao, D. Shao, C.W. Chi, D.T. Huang, S. Chakraborty, T.C. Ho, W.Q. Jiang, H.X. Wang, S.H. Wang and Y.H. Lao.

Keywords for this news article include: New York City, New York, United States, North and Central America, Cancer Research, Genetics, Columbia University.

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Oncology - Lung Cancer
Study Results from Harvard Stem Cell Institute in the Area of Lung Cancer Reported (E-Cadherin Loss Accelerates Tumor Progression and Metastasis in a Mouse Model of Lung Adenocarcinoma)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Oncology - Lung Cancer have been published. According to news reporting originating in Cambridge, Massachusetts, by NewsRx journalists, research stated, “Metastatic disease is the primary cause of death
of patients with lung cancer, but the mouse models of lung adenocarcinoma do not accurately recapitulate
the tumor microenvironment or metastatic disease observed in patients. In this study, we conditionally
deleted E-cadherin in an autochthonous lung adenocarcinoma mouse model driven by activated oncogenic
Kras and p53 loss."

The news reporters obtained a quote from the research from Harvard Stem Cell Institute, “Loss of
E-cadherin significantly accelerated lung adenocarcinoma progression and decreased survival of the mice. Kras;p53;E-cadherin mice had a 41% lung tumor burden, invasive grade 4 tumors, and a desmoplastic
stroma just 8 weeks after tumor initiation. One hundred percent of the mice developed local metastases
to the lymph nodes or chest wall, and 38% developed distant metastases to the liver or kidney. Lung
adenocarcinoma cancer cell lines derived from these tumors also had high migratory rates.”

According to the news reporters, the research concluded: “These studies demonstrate that the
Kras;p53;E-cadherin mouse model better emulates the tumor microenvironment and metastases observed
in patients with lung adenocarcinoma than previous models and may therefore be useful for studying
metastasis and testing new lung cancer treatments in vivo.”

For more information on this research see: E-Cadherin Loss Accelerates Tumor Progression and
Metastasis in a Mouse Model of Lung Adenocarcinoma. American Journal of Respiratory Cell and Molecular
Biology, 2018;59(2):237-245. American Journal of Respiratory Cell and Molecular Biology can be contacted
at: Amer Thoracic Soc, 25 Broadway, 18 Fl, New York, NY 10004, USA.

Our news correspondents report that additional information may be obtained by contacting C.F. Kim,
Harvard Stem Cell Inst, Cambridge, MA, United States. Additional authors for this research include K.J.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1165/
rcmb.2017-0210OC. This DOI is a link to an online electronic document that is either free or for purchase,
and can be your direct source for a journal article and its citation.

Keywords for this news article include: Cambridge, Massachusetts, United States, North and
Central America, Cell Adhesion Molecules, Health and Medicine, Membrane Proteins, Adenocarcinoma,
Glycoproteins, Cell Research, Lung Cancer, Cadherins, Oncology, p53 Gene, Genetics, Harvard Stem Cell
Institute.

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Proteins - Orphan Nuclear Receptors
Xiangya Hospital Reports Findings in Orphan Nuclear Receptors
[Aryl hydrocarbon receptor activated by benzo (a) pyrene promotes
SMARCA6 expression in NSCLC]

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results
on Proteins - Orphan Nuclear Receptors have been published. According to news reporting from Hunan,
People’s Republic of China, by NewsRx journalists, research stated, “Recent studies suggest that individual
subunits of chromatin-remodeling complexes generate epigenetically specific signaling in tumorigenicity.
The impact of environmental factors on the chromatin-remodeling factor has not been thoroughly elucidated
to date.”

The news correspondents obtained a quote from the research from Xiangya Hospital, “We detected
the expression level of SMARCA6 (SWI/SNF2-Related, Matrix-Associated, Actin-Dependent Regulator of
Chromatin, Subfamily A, Member 6) in NSCLC (Non-small-cell lung carcinoma) and measured it through
quantitative real-time PCR (qRT-PCR) and immunohistochemistry. The effects of BaP on proliferation
and cell cycle progression were evaluated using MTT, colony formation and FACS analyses. Tumor growth
in vivo was observed in a xenograft model. ChIP and qPCR were performed to validate that SMARCA6 was a potential target of AhR in NSCLC. As a result, BaP increased SMARCA6 expression. Smoking was linked with elevated SMARCA6 expression in NSCLC. BaP promoted cancer progression in vitro and in vivo. ChIP assay confirmed that BaP increases SMARCA6 expression via recruitment of AhR and induces SMARCA6 expression by facilitating AhR translocation to the nucleus. Furthermore, inhibition of AhR expression decreases SMARCA6 expression in NSCLC. Finally, knockdown of SMARCA6 attenuates BaP-induced cancer progression.

According to the news reporters, the research concluded: “This study demonstrates that BaP promotes proliferation by activation of AhR, which promotes SMARCA6 expression, and may identify new diagnostic and therapeutic targets in lung cancer.”

For more information on this research see: Aryl hydrocarbon receptor activated by benzo (a) pyrene promotes SMARCA6 expression in NSCLC. American Journal of Cancer Research, 2018;8(7):1214-1227.

Our news journalists report that additional information may be obtained by contacting C. Mao, Key Laboratory of Carcinogenesis and Cancer Invasion, Ministry of Education, Xiangya Hospital, Central South University Changsha 410078, Hunan, People’s Republic of China. Additional authors for this research include M. Wang, B. Qian, L. Ouyang, Y. Shi, N. Liu, L. Chen, D. Xiao, X. Wang, Y. Cao, S. Liu, Y. Tao and W. Liu.

Keywords for this news article include: Hunan, People’s Republic of China, Asia, Aryl Hydrocarbon Receptors, Cancer, Cell Nucleus Structures, Chromatin, Chromosome Structures, DNA Binding Proteins, Epidemiology, Health and Medicine, Intranuclear Space, Nucleoproteins, Oncology, Orphan Nuclear Receptors, Transcription Factors.

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Science
New Findings in Science Described from Hospital del Mar (Manic Fringe deficiency imposes Jagged1 addiction to intestinal tumor cells)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Science are presented in a new report. According to news originating from Barcelona, Spain, by NewsRx correspondents, research stated, “Delta ligands regulate Notch signaling in normal intestinal stem cells, while Jagged1 activates Notch in intestinal adenomas carrying active beta-catenin. We used the Apc(Min/+ )mouse model, tumor spheroid cultures, and patient-derived orthoxenografts to address this divergent ligand-dependent Notch function and its implication in disease.”

Our news journalists obtained a quote from the research from Hospital del Mar, “We found that intestinalspecific Jag1 deletion or antibody targeting Jag1 prevents tumor initiation in mice. Addiction to Jag1 is concomitant with the absence of Manic Fringe (MFNG) in adenoma cells, and its ectopic expression reverts Jag1 dependence. In 239 human colorectal cancer patient samples, MFNG imposes a negative correlation between Jag1 and Notch, being high Jag1 in the absence of MFNG predictive of poor prognosis. Jag1 antibody treatment reduces patientderived tumor orthoxenograft growth without affecting normal intestinal mucosa.”

According to the news editors, the research concluded: “Our data provide an explanation to Jag1 dependence in cancer, and reveal that Jag1-Notchl interference provides therapeutic benefit in a subset of colorectal cancer and FAP syndrome patients.”

For more information on this research see: Manic Fringe deficiency imposes Jagged1 addiction to intestinal tumor cells. Nature Communications, 2018;9():29-41. Nature Communications can be
Chemoembolization

Findings from Yeungnam University College of Medicine in the Area of Chemoembolization Reported (Clinical usefulness of transarterial chemoembolization response prior to liver transplantation as predictor of optimal timing for living donor …)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Chemoembolization are presented in a new report. According to news reporting from Daegu, South Korea, by NewsRx journalists, research stated, “Response to preoperative transarterial chemoembolization (TACE) has been recommended as a biological selection criterion for liver transplantation (LT). The aim of our study was to identify optimal timing of living donor liver transplantation (LDLT) after TACE based on the TACE response.”

The news correspondents obtained a quote from the research from the Yeungnam University College of Medicine, “We performed a retrospective study to assess recurrence in 128 hepatocellular carcinoma (HCC) patients who underwent LDLT following sequential TACE from January 2002 to March 2015 at a single institute. Cox proportional hazard models and Kaplan-Meier analysis were utilized to estimate HCC recurrence and find optimal timing for LDLT. Seventy-three and 61 patients were divided as the responder and nonresponder, respectively. Multivariate analysis showed independent pre-liver transplantation (pre-LT) predictors of recurrence were larger sized tumor (>3 cm, \(p=0.024\)), nonresponse to TACE (\(p=0.031\)), vascular invasion (\(p=0.002\)), and extrahepatic nodal involvement (\(p=0.001\)). In the 3-month time difference between last pre-LT TACE and LDLT subgroup, TACE responders showed significantly higher adjusted hazard ratio (aHR) of recurrence free survival (aHR, 6.284; \(p=0.007\)), cancer specific survival (aHR, 7.033; \(p=0.016\)), and overall survival (aHR, 7.055; \(p=0.005\)). Moreover, for overall patients and responder groups, the significant time difference between last pre-LT TACE and LDLT was 2 months in the minimum P-value approach.”

According to the news reporters, the research concluded: “In selected patients who showed good response to pre-LT TACE, a shorter time interval between TACE and LDLT may be associated with higher recurrence free survival, cancer specific survival, and overall survival.”

For more information on this research see: Clinical usefulness of transarterial chemoembolization response prior to liver transplantation as predictor of optimal timing for living donor liver transplantation. Annals of Surgical Treatment and Research, 2017;95(2):111-120.

Our news journalists report that additional information may be obtained by contacting C.W. Cho, Dept. of Surgery, Yeungnam University College of Medicine, Daegu, South Korea. Additional authors for this research include G.S. Choi, J.M. Kim, C.HD. Kwon, D.J. Kim and J.W Joh.
Investigators at University of Tehran Have Reported New Data on Adenocarcinoma [Cell Cycle Arrest and Apoptosis Induction of Phloroacetophenone Glycosides and Caffeoylquinic Acid Derivatives in Gastric Adenocarcinoma (AGS) Cells]

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Adenocarcinoma. According to news reporting from Tehran, Iran, by NewsRx journalists, research stated, “In the present study, we analyzed anti-proliferative and apoptosis induction activity of five phenolic compounds: echisoside, pleoside, chlorogenic acid, 4,5-Di-O-caffeoylquinic acid, and cynarin on AGS (adenocarcinoma gastric) cell line. These phenolic compounds were isolated from methanol extract of Dorema glabrum root.”

The news correspondents obtained a quote from the research from the University of Tehran, “An MTT assay was conducted to evaluate the inhibitory effect on cancer cells. EB/AO staining was done to assess the mode of cell death and morphological changes of the cells’ nuclei. Cell cycle distribution of the cells was analyzed by flow cytometry, and for further confirmation of the pathway, mRNA levels of apoptosis cascade players were quantified by qRT-PCR. We found that echisoside, pleoside, chlorogenic acid, 4,5-Di-O-caffeoylquinic acid, and cynarin inhibited the proliferation of AGS cancer cells in vitro. Our data revealed that these compounds triggered morphological changes characteristic of apoptotic cell death. These compounds up-regulated bax and caspase3 expression and down-regulated cyclin D1, bcl2, VEGFA, c-myc and survivin. Moreover, cell population increased at the G1 phase, and a number of cells at the G2/M phase of the cell cycle decreased after treatment. All these data suggest that phenolic compounds have a cytotoxic effect on gastric cancer cells and could trigger apoptosis.”

According to the news reporters, the research concluded: “Besides cytotoxic activity, they could potentially arrest the cell cycle at the G1 phase.”


Our news journalists report that additional information may be obtained by contacting N. Jafari, Dept. of Cell & Molecular Biology, School of Biology, College of Science, University of Tehran, Tehran, Iran. Additional authors for this research include S.J. Zargar, M.R. Delnavazi and N. Yassa.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.2174/1871520618666171219121449. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Tehran, Iran, Asia, Adenocarcinoma, Apoptosis, Cancer, Cellular Physiology, Health and Medicine, Oncology.
Oncology - Neuroblastomas
Data from Guangzhou Medical University Advance Knowledge in Neuroblastomas (MiR-181a/b induce the growth, invasion, and metastasis of neuroblastoma cells through targeting ABI1)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Oncology - Neuroblastomas. According to news reporting originating from Guangdong, People’s Republic of China, by NewsRx correspondents, research stated, “Neuroblastoma is a pediatric malignancy, and the clinical phenotypes range from localized tumors with excellent outcomes to widely metastatic disease in which long-term survival is approximately 40%, despite intensive therapy. Emerging evidence suggests that aberrant miRNA regulation plays a role in neuroblastoma, but the miRNA functions and mechanisms remain unknown. miR-181 family members were detected in 32 neuroblastoma patients, and the effects of miR-181a/b on cell viability, invasion, and migration were evaluated in vitro and in vivo.”

Financial supporters for this research include National Natural Science Foundation of China, Science and Technology Planning Project of Guangdong Province, China.

Our news editors obtained a quote from the research from Guangzhou Medical University, “A parallel global mRNA expression profile was obtained for neuroblastoma cells overexpressing miR-181a. The potential targets of miR-181a/b were validated. miR-181a/b expression levels were positively associated with MYCN amplification and neuroblastoma aggressiveness. Moreover, ectopic miR-181a/b expression significantly induced the growth and invasion of neuroblastoma cells in vitro and in vivo. Microarray analysis revealed that mRNAs were consistently downregulated after miR-181a overexpression, leading to cell migration. In addition, the expression of ABI1 was suppressed by miR-181a/b, and ABI1 was validated as a direct target of miR-181a/b.”

According to the news editors, the research concluded: “We concluded that miR-181a/b were significantly upregulated in aggressive neuroblastoma, which enhanced its tumorigenesis and progression by suppressing the expression of ABI1.”


The direct object identifier (DOI) for that additional information is: https://doi.org/10.1002/mc.22839. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Guangdong, People’s Republic of China, Asia, Health and Medicine, Neuroblastomas, Hematology, Genetics, Oncology, Guangzhou Medical University.

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Oncology - Mammary Paget’s Disease

Findings from North Hospital Provides New Data on Mammary Paget’s Disease (Expression of CD3, PD-L1 and CTLA-4 in mammary and extra-mammary Paget disease)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Oncology - Mammary Paget’s Disease. According to news reporting originating in St. Etienne, France, by NewsRx journalists, research stated, “Mammary and extra-mammary Paget disease is a rare form of intra-epithelial glandular neoplasm which is characteristically recurrent and necessitates multiple excisions that have an important impact on morbidity. Local immuno-modulating treatments have been applied with promising results, but the local immune markers of Paget disease have not been studied.”

The news reporters obtained a quote from the research from North Hospital, “To investigate the local immune micro-environment of Paget disease. Sixty-four specimens from 41 patients, including cases with multiple recurrences and underlying primary neoplasm, have been studied for their expression of CD3, PD-L1 and CTLA-4. Nineteen cases were mammary; 22 were extra-mammary and involved the vulva, the anus, the inguinal region and the lower extremity. PD-L1 was not expressed by any neoplastic lesion or the associated lymphocytes. CTLA-4 expression was found in nine cases. Higher stromal CD3 expression and moderate levels of intra-epithelial CD3 expression were present in most cases. Biopsies, subsequent excision specimens and recurrences showed the same immunohistochemical profile of CD3 and PD-L1, although there were different levels of CTLA-4 in a few cases. The underlying lesions in mammary Paget disease showed the same immunohistochemical profile as the intra-epithelial neoplastic cells. The expression of the markers did not correlate with age, sex, localization or recurrence.”

According to the news reporters, the research concluded: “Paget disease is characterized by an intense lymphocytic response, devoid of the immune-suppressive impact of the PD-L1 pathway, but with occasional CTLA-4 expression.”

For more information on this research see: Expression of CD3, PD-L1 and CTLA-4 in mammary and extra-mammary Paget disease. Cancer Immunology Immunotherapy, 2018;67(8):1297-1303. Cancer Immunology Immunotherapy can be contacted at: Springer, 233 Spring St, New York, NY 10013, USA.

Our news correspondents report that additional information may be obtained by contacting G. Karpathiou, Univ Hosp St Etienne, North Hosp, Dept. of Pathol, F-42055 St Etienne 2, France. Additional authors for this research include C. Chauleur, S. Hathroubi, C. Habougit and M. Peoc’h.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s00262-018-2189-x. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: St. Etienne, France, Europe, Diagnostics and Screening, Mammary Paget’s Disease, Health and Medicine, Immunology, Biomarkers, Oncology, North Hospital.

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Oncology - Liver Cancer

New Liver Cancer Data Have Been Reported by F. Zhang and Co-Authors (SKP2 Promotes Hepatocellular Carcinoma Progression Through Nuclear AMPK-SKP2-CARM1 Signaling Transcriptionally Regulating Nutrient-Deprived Autophagy Induction)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Liver Cancer. According to news reporting originating in Jiangsu, People’s Republic of China, by NewsRx journalists, research stated, “SKP2 overexpression has been associated with poor prognosis in numerous cancers. The mechanisms of autophagy in the tumor pathogenesis have been a research focus recently.”

The news reporters obtained a quote from the research, “How the SKP2 involved in autophagy expresses oncogenic characteristics, especially in HCC, are largely unclear. The expression of SKP2 was detected by qPCR, Western blot, Immunohistochemical (IHC) and Immunofluorescence (IF) techniques. SKP2 was knocked down or overexpressed by lentivirus transfection in HCC cells. Functional assays such as CCK8 assays, transwell migration and invasion assays, and colony formation assays were performed to determine the role of SKP2 in HCC. Furthermore, autophagy was induced by glucose deprivation in HCC cells followed by monitoring of the levels and distributions of SKP2, CARM1 and AMPK. Our data showed that SKP2 levels were significantly increased in HCC cell lines and HCC tissues rather than corresponding normal liver tissues, and augmented SKP2 levels were statistically correlated with tumor grade, size and metastases. By up-regulation or down-regulation of SKP2 in HCC cells, we confirmed that SKP2 encourages proliferation, migration, invasion, and colony formation. We then found that SKP2 was inhibited, CARM1 increased and AMPKa2 became activated in the nucleus under glucose deprivation induced autophagy. Moreover, we discovered that SKP2 was repressing CARM1 in the nucleus under nutrient-sufficient conditions in HCC.”

According to the news reporters, the research concluded: “We show that SKP2 promotes HCC progression and its nuclear functions of autophagy induction with CARM1 and AMPK, which may provide a potential target for HCC therapy.”


Our news correspondents report that additional information may be obtained by contacting F. Zhang, Natl Hlth & Family Planning Commiss Peoples Repub, Key Lab Living Donor Liver Transplantat, Nanjing, Jiangsu, People’s Republic of China. Additional authors for this research include X. Li, W. Yan, X.H. Zhang, Y. Sun and X.S. Wei.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1159/000491622. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Jiangsu, People’s Republic of China, Asia, Health and Medicine, Liver Cancer, Carcinomas, Oncology.

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Oncology - Skin Cancer

Reports on Skin Cancer Findings from Alfred Hospital Provide New Insights (Skin Cancer Following Solid Organ Transplantation: A Review of Risk Factors and Models of Care)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Oncology - Skin Cancer is the subject of a report. According to news reporting out of Melbourne, Australia, by NewsRx editors, research stated, “The number of solid organ transplants has been increasing annually worldwide. Advances in transplantation surgery and community awareness of organ donation have been key contributors.”

Our news journalists obtained a quote from the research from Alfred Hospital, “Combined with increased understanding of immunosuppression, there are a growing number of solid organ transplant recipients in the community as a result of improved long-term outcomes. There remains a high incidence of deaths worldwide post-transplant due to non-melanoma skin cancer (NMSC), which has greater morbidity and mortality in this population than in the general community. Many transplant candidates are not screened prior to organ transplantation and not followed up dermatologically after transplant. After a comprehensive review of the MEDLINE database, we present an update of literature on risk factors for melanoma and non-melanoma skin cancer development in transplant recipients. Medications used by transplant recipients, including immunosuppressants and antibiotics, are discussed along with their respective risks of skin cancer development.”

According to the news editors, the research concluded: “We conclude with evidence-based recommendations for models of care, including patient education and dermatological review of transplant recipients.”


Our news journalists report that additional information may be obtained by contacting M.D. Howard, Alfred Hospital, Victorian Melanoma Serv, Melbourne, Vic 3004, Australia. Additional authors for this research include J.C. Su and A.H. Chong.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s40257-018-0355-8. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Melbourne, Australia, Australia and New Zealand, Risk and Prevention, Health and Medicine, Skin Neoplasms, Skin Cancer, Oncology, Melanoma, Alfred Hospital.

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Oncology - Lung Cancer

Studies from University of Kentucky Yield New Data on Lung Cancer (Nrf2-activated expression of sulfiredoxin contributes to urethane-induced lung tumorigenesis)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Lung Cancer have been presented. According to news reporting from Lexington, Kentucky, by
NewsRx journalists, research stated, “Lung cancer is the leading cause of cancer death worldwide. Cigarette smoking and exposure to chemical carcinogens are among the risk factors of lung tumorigenesis.”

Funders for this research include National Institutes of Health, Department of Defense, American Cancer Society, Kentucky Lung Cancer Research Program 2016.

The news correspondents obtained a quote from the research from the University of Kentucky, “In this study, we found that cigarette smoke condensate and urethane significantly stimulated the expression of sulfiredoxin (Srx) at the transcript and protein levels in cultured normal lung epithelial cells, and such stimulation was mediated through the activation of nuclear related factor 2 (Nrf2). To study the role of Srx in lung cancer development in vivo, mice with Srx wildtype, heterozygous or knockout genotype were subjected to the same protocol of urethane treatment to induce lung tumors. By comparing tumor multiplicity and volume between groups of mice with different genotype, we found that Srx knockout mice had a significantly lower number and smaller size of lung tumors. Mechanistically, we demonstrated that loss of Srx led to a decrease of tumor cell proliferation as well as an increase of tumor cell apoptosis.”

According to the news reporters, the research concluded: “These data suggest that Srx may have an oncogenic role that contributes to the development of lung cancer in smokers or urethane-exposed human subjects.”


Our news journalists report that additional information may be obtained by contacting Q. Wei, University of Kentucky, Markey Canc Center, Lexington, KY 40536, United States. Additional authors for this research include H. Jiang, H.A. Chawsheen, M. Gerard, M.B. Toledano and M. Mishra.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.canlet.2018.06.011. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Lexington, Kentucky, United States, North and Central America, Risk and Prevention, Health and Medicine, Lung Neoplasms, Lung Cancer, Carbamates, Urethane, Oncology, University of Kentucky.

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Oncology - Gliomas

Data from Third Military Medical University Advance Knowledge in Gliomas (Methylation-mediated miR-155-FAM133A axis contributes to the attenuated invasion and migration of IDH mutant gliomas)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Gliomas have been presented. According to news reporting out of Chongqing, People’s Republic of China, by NewsRx editors, research stated, “Gliomas with isocitrate dehydrogenases gene mutations (IDHMT) were found to be less aggressive than their wildtype (IDHWT) counterparts. However, the mechanism remains unclear.”

Financial support for this research came from National Natural Science Foundation of China.

Our news journalists obtained a quote from the research from Third Military Medical University, “The current study aims to investigate the role of silenced oncogenic microRNAs in IDHMT gliomas, which were largely ignored and may contribute to the less aggressive behavior of IDHMT gliomas. Microarrays,
bioinformatics analysis of the data from TCGA and qPCR analysis of samples from our experimental cohort (LGG: IDHWT = 10, IDHMT = 31; GBM: IDHWT = 34, IDHMT = 9) were performed. The results show that miR-155 was consistently down-regulated in IDHMT gliomas. Establishment of IDH1(R132H) overexpressing glioma cell line and bisulfite sequencing PCR suggested that miR-155 down-regulation was associated with IDH1(R132H) mutation induced promoter CpG islands methylation. The cancer testis antigen FAM133A is a direct downstream target of miR-155 and is a negative regulator of glioma invasion and migration possibly by regulating matrix metalloproteidase 14 (MMP14).

According to the news editors, the research concluded: “Together, we found that methylation-regulated miR-155-FAM133A axis may contribute to the attenuated invasion and migration of IDHMT gliomas by targeting MMP14.”


Our news journalists report that additional information may be obtained by contacting S.Q. Lv, Third Military Medical University, Xinqiao Hosp, Dept. of Neurosurg, Chongqing 400037, People’s Republic of China. Additional authors for this research include L. Du, N.N. Li, Y. Zhang, Y. Xiang, J.H. Tang, S.L. Xia, E.E. Zhang and G.H. Huang.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.cancerlet.2018.06.007. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Chongqing, People’s Republic of China, Asia, Health and Medicine, Oncology, Gliomas, Third Military Medical University.

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Drugs and Therapies - Pharmaceutical Research

Study Findings on Pharmaceutical Research Are Outlined in Reports from University of Sao Paulo (Quantification of 5-FU in skin samples for the development of new delivery systems for topical cancer treatment)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Drugs and Therapies - Pharmaceutical Research is the subject of a report. According to news originating from Ribeirao Preto, Brazil, by NewsRx correspondents, research stated, “5-Fluorouracil (5-FU) is used for the topical treatment of pre-cancerous skin lesions. However, previous reports focus on 5-FU quantification in plasma samples, failing to provide information about drug quantification in the skin.”

Our news journalists obtained a quote from the research from the University of Sao Paolo, “Therefore, the aim of this work was to develop a simple and reliable analytical method employing HPLC-UV for 5-FU quantification in skin samples. Chromatographic separation was obtained using the commonly available Lichrospher RP-C18 endcapped column. Porcine ear skin matrix-based analytical curves with thymine, as internal standard, were used. 5-FU was eluted at 5.2 min and thymine at 13.0 min. The method was selective, precise and accurate in the linear range from 0.3 to 6 μg/mL. The samples were stable after three cycles of freeze/thawing and extraction efficiency rates above 95% were obtained. In vitro skin penetration studies of an aqueous solution and a commercial cream of 5-FU were performed. The cream improved 5-FU retention into the skin and permeation through the skin compared to the solution.”
According to the news editors, the research concluded: “Therefore, the method developed herein can be applied to the study of formulations for topical delivery of 5-FU.”


The news correspondents report that additional information may be obtained from R.F.V. Lopez, University of Sao Paulo, Sch Pharmaceut Sci Ribeirao Preto, BR-14040903 Ribeirao Preto, SP, Brazil. Additional authors for this research include J.O. Eloy, J.A.R. Paschoal and R. Petrillo.

Keywords for this news article include: Ribeirao Preto, Brazil, South America, Pharmaceutical Research, Drugs and Therapies, Health and Medicine, Oncology, Cancer, University of Sao Paulo.

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**Oncology - Gastric Cancer**

**Findings on Gastric Cancer Detailed by Researchers at Department of Internal Medicine-Oncology (A prognostic 3-long noncoding RNA signature for patients with gastric cancer)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Oncology - Gastric Cancer are presented in a new report. According to news reporting originating in Nanyang, People’s Republic of China, by NewsRx editors, the research stated, “Current studies showed that long noncoding RNAs (lncRNAs) may act as prognostic biomarkers in a variety of cancers. The aim of this study was to identify and assess a prognostic lncRNA signature in patients with gastric carcinoma (GC).”

The news reporters obtained a quote from the research from the Department of Internal Medicine-Oncology, “LncRNAs expression profiles and corresponding clinicopathological data for 350 patients with GC were obtained from The Cancer Genome Atlas (TCGA), and the least absolute shrinkage and selection operator Cox (LASSO Cox) regression model was used to identify the lncRNA signature. Finally, 3 lncRNAs (CYP4A22-AS1, AP000695.6, and RP11-108M12.3) were identified using LASSO Cox. The prognostic score was imputed as follows: \((0.354 \times \text{expression level of AP000695.6}) + (-0.899 \times \text{expression level of CYP4A22-AS1}) + (0.881 \times \text{expression level of RP11-108M12.3})\). The nomogram that integrated independent prognostic factors (age, American Joint Committee on Cancer-lymph node status, and residual tumor and risk score) was constructed. In TCGA cohort, the area under the curve (AUC) for the predictive nomogram was 0.737 (19-month survival). The calibration curve also demonstrated satisfactory agreement between predictive values and observation values in the probabilities of 1-, 3-, and 5-year overall survival. We also established prognostic model using machine learning technique, and the corresponding AUC for the predictive model was 0.756 (19-month survival).”

According to the news reporters, the research concluded: “The Kyoto Encyclopedia of Genes and Genomes pathway analysis showed that the Hippo signaling pathway was the main pathway associated with the 3-lncRNA signature.”


Our news correspondents report that additional information may be obtained by contacting P. Cheng, Dept. of Internal Medicine-Oncology, The First Affiliated Hospital of Nanyang Medical College, Nanyang, People’s Republic of China.
Researchers from Department of Surgical Oncology Report Details of New Studies and Findings in the Area of Gastric Cancer (Central Lymph Node Metastasis in Gastric Cancer Is Predictive of Survival After Preoperative Therapy)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Data detailed on Oncology - Gastric Cancer have been presented. According to news originating from Houston, Texas, by NewsRx correspondents, research stated, "It is unclear how preoperative therapy for gastric cancer affects the metastasis rate of lymph nodes (LNs) and whether the location of positive LNs affects survival after preoperative therapy. Therefore, we determined the association between positive central lymph nodes (CnLNs) and disease stage and overall survival (OS)."

Financial support for this research came from NIH/NCI.

Our news journalists obtained a quote from the research from the Department of Surgical Oncology, "We reviewed a prospectively maintained database to identify patients who had undergone resection of gastric adenocarcinoma at our institution from 2005 to 2015. CnLNs were defined as common hepatic, celiac, and proximal splenic artery LNs (stations no. 8, 9, and 11p). The frequency of CnLN metastases and risk factors affecting OS were examined. We identified 356 patients. Preoperative therapy was administered to 66% of patients. D2 LN dissection was performed in 80% of patients, and the median number of LNs examined was 25 (IQR, 18-34). In 243 patients (68%), CnLNs had undergone separate pathologic examination; the CnLN-positive rate was 9.1% (22 of 243; station no. 8, 4.5%; no. 9, 2.1%; and no. 11p, 4.8%). CnLN metastasis was associated with shorter 3-year OS in patients with pN2/3 disease (33 vs. 62%; p = 0.004). Among patients who had undergone preoperative therapy, ypT3-4 stage (HR 2.44; p = 0.01) and positive CnLNs (HR 5.44; p<0.001) were negatively associated with OS by multivariate analysis. CnLN metastases are uncommon in gastric cancer and have an adverse effect on OS in patients who have undergone preoperative therapy."

According to the news editors, the research concluded: “Larger multi-institutional studies are needed to determine whether CnLN positivity requires a separate staging category after preoperative therapy.”


The news correspondents report that additional information may be obtained from B.D. Badgwell, Univ Texas MD Anderson Canc Center, Dept. of Surg Oncol, Houston, TX 77030, United States. Additional authors for this research include J.S. Estrella, M. Blum, P. Das, H.C. Chen, X.M. Wang, K. Fournier, P. Mansfield, J. Ajani and N. Ikoma.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s11605-
Oncology - Non-Small Cell Lung Cancer

Research Conducted at Kitano Hospital Has Provided New Information about Non-Small Cell Lung Cancer (Effects of vessel interruption sequence during thoracoscopic lobectomy for non-small cell lung cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Non-Small Cell Lung Cancer. According to news reporting out of Osaka, Japan, by NewsRx editors, research stated, “This study aimed to determine if the vessel interruption sequence during thoracoscopic lobectomy affects disease recurrence. We retrospectively analyzed 187 consecutive patients who underwent video-assisted thoracoscopic surgery lobectomy with curative intent for non-small cell lung cancer between January 2007 and December 2013.”

Our news journalists obtained a quote from the research from Kitano Hospital, “Their clinicopathological, operative, and postoperative data were compared. Patients with minimally invasive adenocarcinoma were excluded. A total of 104 patients underwent total venous interruption before interruption of any artery branch (V-first), while 83 patients underwent some artery interruption first (non-V-first). Clinicopathological characteristic distributions were similar between both groups except for the resected lobe. Seven of 104 patients in the V-first group and 15 of 83 patients in the non-V-first group experienced disease recurrences. Among the 187 patients who underwent thoracoscopic lobectomy, overall survival tended to be longer in the V-first group than in the non-V-first group (P = 0.080). Furthermore, disease-free survival was significantly longer in the V-first group than in the non-V-first group (P = 0.019), particularly in stage I patients (P = 0.047). Multivariate analysis showed that vessel interruption sequence was a significant prognostic factor for poor disease-free survival, after adjusting for pathological stage and histology (hazard ratio 2.127; 95% confidence interval 1.009-4.481). There was no significant difference in intraoperative blood loss between both groups.”

According to the news editors, the research concluded: “Interrupting the pulmonary vein first may be associated with improved disease-free survival in patients undergoing thoracoscopic lobectomy for non-small cell lung cancer.”

For more information on this research see: Effects of vessel interruption sequence during thoracoscopic lobectomy for non-small cell lung cancer. General Thoracic and Cardiovascular Surgery, 2018;66(8):464-470. General Thoracic and Cardiovascular Surgery can be contacted at: Springer Japan Kk, Chiyoda First Bldg East, 3-8-1 Nishi-Kanda, Chiyoda-Ku, Tokyo, 101-0065, Japan. (Springer - www.springer.com; General Thoracic and Cardiovascular Surgery - http://www.springerlink.com/content/1863-6705/)

Our news journalists report that additional information may be obtained by contacting R. Sumitomo, Kitano Hosp, Tazuke Kofukai Med Res Inst, Dept. of Thorac Surg, Kita Ku, Osaka 5308480, Japan. Additional authors for this research include T. Fukui, S. Marumo, Y. Otake and C.L. Huang.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1007/s11748-018-0943-9. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.
Study Findings from University of Patras Provide New Insights into Healthcare Engineering (Multifeature Quantification of Nuclear Properties from Images of H&E-Stained Biopsy Material for Investigating Changes in Nuclear Structure with ...)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Engineering - Healthcare Engineering. According to news reporting from Patras, Greece, by NewsRx journalists, research stated, “Cervical dysplasia is a precancerous condition, and if left untreated, it may lead to cervical cancer, which is the second most common cancer in women. The purpose of this study was to investigate differences in nuclear properties of the H&E-stained biopsy material between low CIN and high CIN cases and associate those properties with the CIN grade.”

The news correspondents obtained a quote from the research from the University of Patras, “The clinical material comprised hematoxylin and eosin-(H&E-) stained biopsy specimens from lesions of 44 patients diagnosed with cervical intraepithelial neoplasia (CIN). Four or five nonoverlapping microscopy images were digitized from each patient’s H&E specimens, from regions indicated by the expert physician. Sixty-three textural and morphological nuclear features were generated for each patient’s images. The Wilcoxon statistical test and the point biserial correlation were used to estimate each feature’s discriminatory power between low CIN and high CIN cases and its correlation with the advancing CIN grade, respectively. Statistical analysis showed 19 features that quantify nuclear shape, size, and texture and sustain statistically significant differences between low CIN and high CIN cases. These findings revealed that nuclei in high CIN cases, as compared to nuclei in low CIN cases, have more irregular shape, are larger in size, are coarser in texture, contain higher edges, have higher local contrast, are more inhomogeneous, and comprise structures of different intensities.”

According to the news reporters, the research concluded: “A systematic statistical analysis of nucleus features, quantified from the H&E-stained biopsy material, showed that there are significant differences in the shape, size, and texture of nuclei between low CIN and high CIN cases.”

For more information on this research see: Multifeature Quantification of Nuclear Properties from Images of H&E-Stained Biopsy Material for Investigating Changes in Nuclear Structure with Advancing CIN Grade. Journal of Healthcare Engineering, 2018;2018():6358189.

Our news journalists report that additional information may be obtained by contacting C. Konstandinou, Dept. of Medical Physics, University of Patras, Rio, Patras, Greece. Additional authors for this research include D. Giotos, S. Kostopoulos, I. Kalatzis, P. Ravazoula, G. Michail, E. Lavdas, D. Cavouras and G. Sakellaropoulos.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1155/2018/6358189. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Patras, Greece, Europe, Engineering, Healthcare Engineering.

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Gastroenterology - Colorectal Research

New Colorectal Research Study Findings Have Been Reported from Sun Yat Sen University (Downregulation of TRIM58 expression is associated with a poor patient outcome and enhances colorectal cancer cell invasion)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Gastroenterology - Colorectal Research is the subject of a report. According to news reporting originating from Guangdong, People's Republic of China, by NewsRx correspondents, research stated, “TRIM58 is a member of the tripartite motif protein (TRIM) family of E3 ubiquitin ligases. Aberrant gene methylation of TRIM58 has been reported in liver and lung cancer and indicates a poor patient prognosis.”

Our news editors obtained a quote from the research from Sun Yat Sen University, “However, the expression level and functional role of TRIM58 in colorectal cancer (CRC) have yet to be elucidated. In the present study, we found that TRIM58 expression was significantly suppressed in human CRC and was inversely correlated with CRC progression. Additionally, overall survival was significantly reduced in patients with low TRIM58 expression in CRC tumors. In vitro studies demonstrated that ectopic TRIM58 overexpression strongly inhibited CRC cell invasion but had minimal effects on cell proliferation, colonization and migration. Furthermore, TRIM58 suppression enhanced the expression of epithelial-to-mesenchymal transition (EMT) and matrix metalloproteinase (MMP) genes.”

According to the news editors, the research concluded: “Thus, our findings suggest that TRIM58 is a potential prognostic marker of CRC and functions as a tumor-suppressor gene via inhibition of cancer cell invasion through EMT and MMP activation.”

For more information on this research see: Downregulation of TRIM58 expression is associated with a poor patient outcome and enhances colorectal cancer cell invasion. Oncology Reports, 2018;40(3):1251-1260. Oncology Reports can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.


Keywords for this news article include: Guangdong, People’s Republic of China, Asia, Health and Medicine, Colorectal Research, Gastroenterology, Colon Cancer, Oncology, Sun Yat Sen University.

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Science

Findings on Science Detailed by H. Chiriac and Co-Authors (Fe-Cr-Nb-B ferromagnetic particles with shape anisotropy for cancer cell destruction by magneto-mechanical actuation)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Science is now available. According to news reporting out of Iasi, Romania, by NewsRx editors, research stated, “We introduce a new type of magnetic particles (MPs) prepared by wet milling of superferromagnetic Fe-Cr-Nb-B precursor glassy ribbons for cancer treatment by magneto-mechanical actuation in low magnetic fields (1 divided by 20 Oe). The rectangular shapes of MPs and the superferromagnetism of the glassy alloys of which are made the MPs induce important magnetic shape anisotropies which, in association with a large
saturation magnetization, generate an improved torque in a rotating magnetic field, producing important damages on the cellular viability of MG-63 human osteosarcoma (HOS) cells.”

Our news journalists obtained a quote from the research, “The specific parameters such as MPs concentration, frequency and intensity of the applied magnetic field, or the time of exposure have a strong influence on the cancer cells viability. The specific behavior of the Fe-Cr-Nb-B MPs offers them destructive effect even in low magnetic fields such as 10 Oe, and this characteristic allows the use of coils systems which provide large experimental spaces.”

According to the news editors, the research concluded: “The novel MPs are used for the magneto-mechanical actuation alone or in association with hyperthermia, but also can be transported to the tumor sites by means of stem cells carriers.”


Keywords for this news article include: Iasi, Romania, Europe, Science, Health and Medicine, Oncology, Cancer.

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Central Nervous System
New Findings from L.D. Estrada and Colleagues Has Provided New Data on Central Nervous System [The cluster [Re6Se8I6](3-) penetrates biological membranes: drug-like properties for CNS tumor treatment and diagnosis]

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Current study results on Central Nervous System have been published. According to news reporting out of Santiago, Chile, by NewsRx editors, research stated, “Tumorigenic cell lines are more susceptible to [Re6Se8I6](3-) cluster-induced death than normal cells, becoming a novel candidate for cancer treatment. Still, the feasibility of using this type of molecules in human patients remains unclear and further pharmacokinetics analysis is needed.”

Our news journalists obtained a quote from the research, “Using coupled plasma optical emission spectroscopy, we determined the Re-cluster tissue content in injected mice, as a biodistribution measurement. Our results show that the Re-cluster successfully reaches different tissues, accumulating mainly in heart and liver. In order to dissect the mechanism underlying cluster biodistribution, we used three different experimental approaches. First, we evaluate the degree of lipophilicity by determining the octanol/water partition coefficient. The cluster mostly remained in the octanol fraction, with a coefficient of 1.86 +/- 0.02, which indicates it could potentially cross cell membranes. Then, we measured the biological membrane penetration through a parallel artificial membrane permeability assays (PAMPA) assay. The Re-cluster crosses the artificial membrane, with a coefficient of 122 nm/s that is considered highly permeable. To evaluate a potential application of the Re-cluster in central nervous system (CNS) tumors, we analyzed the cluster’s brain penetration by exposing cultured blood-brain-barrier (BBB) cells to increasing concentrations of the cluster.”
According to the news editors, the research concluded: “The Re-cluster effectively penetrates the BBB, reaching nearly 30% of the brain side after 24 h. Thus, our results indicate that the Re-cluster penetrates biological membranes reaching different target organs—most probably due to its lipophilic properties—becoming a promising anti-cancer drug with high potential for CNS cancer’s diagnosis and treatment.”

For more information on this research see: The cluster \([\text{Re}_6\text{Se}_8\text{I}_6\text{]}^{(3-)}\) penetrates biological membranes: drug-like properties for CNS tumor treatment and diagnosis. Biometals, 2018;31(4):517-525. Biometals can be contacted at: Springer, Van Godewijckstraat 30, 3311 Gz Dordrecht, Netherlands. (Springer - www.springer.com; Biometals - http://www.springerlink.com/content/0966-0844/)

Our news journalists report that additional information may be obtained by contacting L.D. Estrada, Univ Bernardo O Higgins, Center Biol & Quim Aplicada CIBQA, Santiago, Chile. Additional authors for this research include E. Duran, M. Cisterna, C. Echeverria, Z.P. Zheng, V. Borgna, N. Arancibia-Miranda and R. Ramirez-Tagle.

Keywords for this news article include: Santiago, Chile, South America, Diagnostics and Screening, Central Nervous System, Health and Medicine, Oncology, Cancer.

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Oncology - Skin Cancer

Study Findings from Zhengzhou University Broaden Understanding of Skin Cancer (Discovery of rafoxanide as a dual CDK4/6 inhibitor for the treatment of skin cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Fresh data on Oncology - Skin Cancer are presented in a new report. According to news reporting originating in Zhengzhou, People’s Republic of China, by NewsRx journalists, research stated, “Since cyclin-dependent kinases 4/6 (CDK4/6) play pivotal roles in cell cycle regulation and are overexpressed in human skin cancers, CDK4/6 inhibitors are potentially effective drugs for skin cancer. In the present study, we present a mixed computational and experimental study attempting to repurpose approved small-molecule drugs as dual CDK4/6 inhibitors for skin cancer treatment.”

The news reporters obtained a quote from the research from Zhengzhou University, “We performed structure-based virtual screening using the docking software idock, targeting an ensemble of CDK4/6 structures. We identified and selected nine compounds with significant predicted scores, and evaluated their cytotoxic effects in vitro in A375 and A431 human skin cancer cell lines. Rafoxanide was found to exhibit the highest cytotoxic effects (IC\(_{50}\): 1.09 \(\mu\) M for A375 and 1.31 \(\mu\) M for A431 cells). Consistent with the expected properties of CDK4/6 inhibitors, rafoxanide significantly increased the G1 phase population. Notably, we revealed that rafoxanide specifically decreased the expression of CDK4/6, cyclin D, retinoblastoma protein (Rb) and the phosphorylation of CDK4/6 and Rb. Furthermore, the anticancer effect of rafoxanide was demonstrated in vivo in BALB/C nude mice subcutaneously xenografted with human skin cancer A375 cells. Rafoxanide (40 \(\text{mg/kg}\), i.p.) exhibited significant antitumor activity, comparable to that of oxaliplatin (5 \(\text{mg/kg}\), i.p.). The combined administration of rafoxanide and oxaliplatin produced a synergistic therapeutic effect.”

According to the news reporters, the research concluded: “To the best of our knowledge, the present study is the first to indicate that rafoxanide inhibits CDK4/6 activity and is a potential candidate drug for the treatment of human skin cancer.”

For more information on this research see: Discovery of rafoxanide as a dual CDK4/6 inhibitor for the

Keywords for this news article include: Zhengzhou, People’s Republic of China, Asia, Drugs and Therapies, Health and Medicine, Salicylanilides, Skin Neoplasms, Skin Cancer, Rafoxanide, Oncology, Zhengzhou University.

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Oncology - Non-Small Cell Lung Cancer

New Findings on Non-Small Cell Lung Cancer from Shanghai Pulmonary Hospital Summarized (The prognostic value of multiorgan metastases in patients with non-small cell lung cancer and its variants: a SEER-based study)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Non-Small Cell Lung Cancer. According to news originating from Shanghai, People’s Republic of China, by NewsRx correspondents, research stated, “This study aimed to investigate the prognostic value of different organs metastases in patients with non-small cell lung cancer (NSCLC) and its most common subtypes. We identified 45,423 NSCLC cases (25,129 men and 20,294 women) between 2010 and 2013 with distant metastases, with complete clinical information obtained from the surveillance, epidemiology, and end results (SEER) database.”

Financial supporters for this research include National Natural Science Foundation of China, Shanghai Tenth Hospital’s improvement plan for National Natural Science Foundation of China.

Our news journalists obtained a quote from the research from Shanghai Pulmonary Hospital, “Bone and liver were the most and the least common metastatic sites with rates of 37.1 and 16.8%, respectively. The mortality rates associated with bone, brain, liver, lung metastases, and multiorgan metastases (MOM) were 73.2, 72.7, 78.3, 65.4, and 77.5%, respectively. Kaplan-Meier analyses demonstrated that patients with MOM and liver metastasis had the worst survival. Compared with NSCLC cases with other organ metastasis, but without the four organs metastasis, hazard ratios (HRs) for lung, bone, brain, and liver metastases, and MOM were 0.906 (95% CI 0.866-0.947), 1.276 (95% CI 1.225-1.330), 1.318 (95% CI 1.260-1.379), 1.481 (95% CI 1.388-1.580), and 1.647 (95% CI 1.587-1.709), respectively. Similar results were obtained for adenocarcinoma (AD) cases. The mortality risk is highest with MOM and liver metastasis followed by bone, brain, other organ, and lung metastases in NSCLC and AD which is the most common variant for NSCLC.”

According to the news editors, the research concluded: “These results will be helpful for pre-treatment evaluation regarding the prognosis of NSCLC patients.”


The news correspondents report that additional information may be obtained from G.N. Jiang, Tongji Univ, Shanghai Pulm Hosp, Dept. of Thorac Surg, Sch Med, Shanghai 200433, People’s Republic of China.
Studies from Sichuan University Yield New Data on Liver Cancer (IncRNA TUG1-Mediated Mir-142-3p Downregulation Contributes to Metastasis and the Epithelial-to-Mesenchymal Transition of Hepatocellular Carcinoma by Targeting ZEB1)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Oncology - Liver Cancer is the subject of a report. According to news reporting from Chengdu, People’s Republic of China, by NewsRx journalists, research stated, “MicroRNA-142-3p (miR-142-3p) is dysregulated in many malignancies and may function as a tumor suppressor or oncogene in tumorigenesis and tumor development. However, few studies have investigated the clinical significance and biological function of miR-142-3p in hepatocellular carcinoma (HCC).”

The news correspondents obtained a quote from the research from Sichuan University, “The expression levels of taurine upregulated gene 1 (TUG1), miR-142-3p, and zinc finger E-box-binding homeobox 1 (ZEB1) were evaluated in HCC tissues and cell lines by quantitative real-time PCR. MTT and colony formation assays were used to detect cell proliferation ability, transwell assays were used to assess cell migration and invasion, and luciferase reporter assays were used to examine the interaction between the long noncoding RNA TUG1 and miR-142-3p. Tumor formation was evaluated through in vivo experiments. miR-142-3p was significantly downregulated in HCC tissues, but TUG1 was upregulated in HCC tissues. Knockdown of TUG1 and upregulation of miR-142-3p inhibited cell proliferation, cell migration, cell invasion, and the epithelial-mesenchymal transition (EMT). miR-142-3p was found to be a prognostic factor of HCC, and the mechanism by which TUG1 upregulated ZEB1 was via direct binding to miR-142-3p. In vivo assays showed that TUG1 knockdown suppressed cell proliferation and the EMT in nude mice.”

According to the news reporters, the research concluded: “The results of this study suggest that the TUG1/miR-142-3p/ ZEB1 axis contributes to the formation of malignant behaviors in HCC.”


Our news journalists report that additional information may be obtained by contacting C. He, Dept. of Hematology, Hematology Research Laboratory, West China Hospital, Sichuan University, Chengdu, People’s Republic of China. Additional authors for this research include Z. Liu, L. Jin, F. Zhang, X. Peng, Y. Xiao, X. Wang, Q. Lyu and X. Cai.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1159/
Oncology - Head and Neck Cancer
Studies from R.A. Beynon et al Add New Findings in the Area of Head and Neck Cancer (Tobacco smoking and alcohol drinking at diagnosis of head and neck cancer and all-cause mortality: Results from head and neck 5000, a prospective observational ...)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Oncology - Head and Neck Cancer. According to news reporting from Bristol, United Kingdom, by NewsRx journalists, research stated, “Tobacco smoking and alcohol consumption are well-established risk factors for head and neck cancer. The prognostic role of smoking and alcohol intake at diagnosis have been less well studied.”

The news correspondents obtained a quote from the research, “We analysed 1,393 people prospectively enrolled into the Head and Neck 5000 study (oral cavity cancer, n=403; oropharyngeal cancer, n=660; laryngeal cancer, n=330) and followed up for a median of 3.5 years. The primary outcome was all-cause mortality. We used Cox proportional hazard models to derive minimally adjusted (age and gender) and fully adjusted (age, gender, ethnicity, stage, comorbidity, body mass index, HPV status, treatment, education, deprivation index, income, marital status, and either smoking or alcohol use) mortality hazard ratios (HR) for the effects of smoking status and alcohol intake at diagnosis. Models were stratified by cancer site, stage and HPV status. The fully-adjusted HR for current versus never-smokers was 1.7 overall (95% confidence interval [CI] 1.1, 2.6). In stratified analyses, associations of smoking with mortality were observed for oropharyngeal and laryngeal cancers (fully adjusted HRs for current smokers: 1.8 (95% CI=0.9, 3.40 and 2.3 (95% CI=0.8, 6.4)). We found no evidence that people who drank hazardous to harmful amounts of alcohol at diagnosis had a higher mortality risk compared to non-drinkers (HR=1.2 (95% CI=0.9, 1.6)). There was no strong evidence that HPV status or tumour stage modified the association of smoking with survival. Smoking status at the time of a head and neck cancer diagnosis influenced all-cause mortality in models adjusted for important prognostic factors. What’s new? Smoking and alcohol use are risk factors for developing head-and-neck cancer (HNC) and are known to influence mortality in general. However, the prognostic role of smoking status and alcohol intake at time of diagnosis on HNC survival is less clear. In this study, the authors provide a comprehensive, prospective analysis of mortality risk in different tumour sites, adjusting for important prognostic factors such as stage, comorbidity, and HPV infection.”

According to the news reporters, the research concluded: “These results may provide insight to inform and improve prediction of clinical outcomes.”


Our news journalists report that additional information may be obtained by contacting R.A. Beynon, MRC, IEU, Bristol BS8 2BN, Avon, United Kingdom. Additional authors for this research include S. Lang,
Alcohols - Ethanol

New Ethanol Study Findings Have Been Reported from K.I. Park et al (Ethanol Extract of Lycopus lucidus Turcz. ex Benth Inhibits Metastasis by Downregulation of Runx-2 in Mouse Colon Cancer Cells)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – New research on Alcohols - Ethanol is the subject of a report. According to news originating from Daegu, South Korea, by NewsRx correspondents, research stated, “Lycopus lucidus Turcz. ex Benth (LT) has been broadly used as a traditional medicinal herb in Asia including Korea, China, and Japan due to its noted ability to promote blood circulation and remove blood stasis. However, its anticancer mechanism is not understood.”

Financial supporters for this research include Ministry of Education, Science and Technology, Ministry of Education.

Our news journalists obtained a quote from the research, “This study aims to elucidate the effects of ethanol extracts of LT (ELT) relative to the role of Runx-related transcription factor-(Runx-) 2 in the invasive and metastatic potentials of mouse colon cancer to determine the underlying mechanisms involved. ELT was evaluated for the antimetastasis activity using CT-26 colon cancer using wound healing, transwell matrigel, and western blot analysis. We used Runx-2-specific siRNA to further determine the relationship between Runx-2 and matrix metalloprotease(MMP-) 9 in the migration and invasion of CT-26 cells. Runx-2 was first demonstrated to be a transcription factor that plays a remarkable role in diverse biological processes of chondrocytes and osteoblasts, but recently, Runx-2 has been reported to be associated with the progression of certain human cancers. ELT was not altered in its effects on growth inhibition. However, ELT significantly inhibited wound closure and cell invasion in a dose-dependent manner. ELT decreased the metastasis by regulating the activity of MMP-9 and Runx-2 at the translational levels. Our results demonstrate that ELT decreases metastasis by inhibiting the Runx-2-MMP-9 axis.”

According to the news editors, the research concluded: “We suggest that it can be used as a novel agent in therapeutic strategies for combating colon cancer.”

For more information on this research see: Ethanol Extract of Lycopus lucidus Turcz. ex Benth Inhibits Metastasis by Downregulation of Runx-2 in Mouse Colon Cancer Cells. Evidence-Based Complementary and Alternative Medicine, 2018;( );1-8. Evidence-Based Complementary and Alternative Medicine can be contacted at: Hindawi Ltd, Adam House, 3RD Flr, 1 Fitzroy Sq, London, W1T 5HF, England. (Hindawi Publishing - www.hindawi.com; Evidence-Based Complementary and Alternative Medicine - http://www.hindawi.com/journals/ecam/)

The news correspondents report that additional information may be obtained from K.I. Park, KIOM, Korean Med KM Applicat Center, Daegu 41062, South Korea. Additional authors for this research include T.W. Oh, J.Y. Ma and K.Y. Kim.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1155/2018/9513290. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.
Recent Findings from Z. Bian and Co-Authors Provide New Insights into Colorectal Research (LncRNA-FEZF1-AS1 Promotes Tumor Proliferation and Metastasis in Colorectal Cancer by Regulating PKM2 Signaling)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Gastroenterology - Colorectal Research. According to news reporting originating in Jiangsu, People’s Republic of China, by NewsRx journalists, research stated, “Long non-coding RNAs (lncRNAs) play key roles in human cancers. Here, FEZF1-AS1, a highly overexpressed lncRNA in colorectal cancer, was identified by lncRNA microarrays.”

Funders for this research include National Natural Science Foundation of China (NSFC), Medical Innovation Team Program of Wuxi, Hospital Management Central of Wuxi, National First-class Discipline Program of Food Science and Technology, Natural Science Foundation of Jiangsu Province (Jiangsu Natural Science Foundation), Fundamental Research Funds for the Central Universities, Medical Key Professionals Program of Jiangsu Province.

The news reporters obtained a quote from the research, “We aimed to explore the roles and possible molecular mechanisms of FEZF1-AS1 in colorectal cancer. LncRNA expression in colorectal cancer tissues was measured by lncRNA microarray and qRT-PCR. The functional roles of FEZF1-AS1 in colorectal cancer were demonstrated by a series of and experiments. RNA pull-down, RNA immunoprecipitation and luciferase analyses were used to demonstrate the potential mechanisms of FEZF1-AS1. We identified a series of differentially expressed lncRNAs in colorectal cancer using lncRNA microarrays, and revealed that FEZF1-AS1 is one of the most overexpressed. Further validation in two expanded colorectal cancer cohorts confirmed the upregulation of FEZF1-AS1 in colorectal cancer, and revealed that increased FEZF1-AS1 expression is associated with poor survival. Functional assays revealed that FEZF1-AS1 promotes colorectal cancer cell proliferation and metastasis. Mechanistically, FEZF1-AS1 could bind and increase the stability of the pyruvate kinase 2 (PKM2) protein, resulting in increased cytoplasmic and nuclear PKM2 levels. Increased cytoplasmic PKM2 promoted pyruvate kinase activity and lactate production (aerobic glycolysis), whereas FEZF1-AS1-induced nuclear PKM2 upregulation further activated STAT3 signaling. In addition, PKM2 was upregulated in colorectal cancer tissues and correlated with FEZF1-AS1 expression and patient survival.”

According to the news reporters, the research concluded: “Together, these data provide mechanistic insights into the regulation of FEZF1-AS1 on both STAT3 signaling and glycolysis by binding PKM2 and increasing its stability.”

For more information on this research see: LncRNA-FEZF1-AS1 Promotes Tumor Proliferation and Metastasis in Colorectal Cancer by Regulating PKM2 Signaling. Clinical Cancer Research, 2018;(). Clinical Cancer Research can be contacted at: Amer Assoc Cancer Research, 615 Chestnut St, 17TH Floor, Philadelphia, PA 19106-4404, USA. (American Association for Cancer Research - www.aacr.com; Clinical Cancer Research - http://clincancerres.aacrjournals.org/)

Our news correspondents report that additional information may be obtained by contacting J. Zou, Center of Clinical Research, Wuxi People’s Hospital of Nanjing Medical University, Wuxi, Jiangsu, People’s
Drugs and Therapies - Cancer Therapy

Reports Outline Cancer Therapy Study Results from S. Kim et al (Competitive Biological Activities of Chitosan and Its Derivatives: Antimicrobial, Antioxidant, Anticancer, and Anti-Inflammatory Activities)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Research findings on Drugs and Therapies - Cancer Therapy are discussed in a new report. According to news reporting from Lima, Peru, by NewsRx editors, the research stated, “Chitosan is obtained from alkaline deacetylation of chitin, and acetamide groups are transformed into primary amino groups during the deacetylation. The diverse biological activities of chitosan and its derivatives are extensively studied that allows to widening the application fields in various sectors especially in biomedical science.”

Financial support for this research came from CONCYTEC.

The news correspondents obtained a quote from the research, “The biological properties of chitosan are strongly depending on the solubility in water and other solvents. Deacetylation degree (DDA) and molecular weight (MW) are the most decisive parameters on the bioactivities since the primary amino groups are the key functional groups of chitosan where permits to interact with other molecules. Higher DDA and lower MW of chitosan and chitosan derivatives demonstrated higher antimicrobial, antioxidant, and anticancer capacities. Therefore, the chitosan oligosaccharides (COS) with a low polymerization degree are receiving a great attention in medical and pharmaceutical applications as they have higher water solubility and lower viscosity than chitosan. In this review articles, the antimicrobial, antioxidant, anticancer, anti-inflammatory activities of chitosan and its derivatives are highlighted.”

According to the news reporters, the research concluded: “The influences of physicochemical parameters of chitosan like DDA and MW on bioactivities are also described.”


Our news journalists report that additional information may be obtained by contacting S. Kim, PUCP, Engn Department, Lima 32, Peru.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1155/2018/1708172. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.
Study Findings on Head and Neck Cancer Are Outlined in Reports from Catholic University of Leuven (Clinical factors impacting on late dysphagia following radiotherapy in patients with head and neck cancer)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Head and Neck Cancer. According to news reporting from Leuven, Belgium, by NewsRx journalists, research stated, “Patient and treatment characteristics of patients with head and neck cancer (HNSCC) were correlated with dysphagia scored on swallowing-videofluoroscopy (VFS) and with patient- and physician-scored dysphagia. 63 HNSCC patients treated with radiotherapy (RT) were evaluated at baseline, and 6 and 12 months post-RT.”

The news correspondents obtained a quote from the research from the Catholic University of Leuven, “VFS was scored with Penetration Aspiration Scale (PAS) and Swallowing Performance Scale (SPS). Physician- and patient-scored dysphagia were prospectively recorded according to Common Terminology Criteria for Adverse Events scoring system, Radiation Therapy Oncology Group/EORTC scoring system and European Organization for Research and Treatment of Cancer Quality of Life questionnaire (EORTC-QLQ H&N35). Univariable analysis revealed a significant association between tumour-subsite and higher SPS (p = 0.02) and patient-scored dysphagia (p = 0.02) at baseline. At 12 months, tumour-subsite was significantly associated with higher PAS and SPS. Multivariable analysis and pairwise comparison showed that hypopharyngeal cancer and carcinoma of unknown primary were associated with higher SPS at baseline and at 12 months, respectively (p = 0.03 and p = 0.01). Upfront neck dissection (UFND) was significantly associated with higher SPS and physician-scored dysphagia in univariable analysis at all timepoints. At 12 months, there was also a significant association with higher PAS (p <0.01) and patient-scored dysphagia (p <0.01). After multivariable analysis, the association between UFND and higher PAS (p <0.01) and SPS (p <0.01) remained significant at 12 months. Hypopharyngeal tumours and carcinoma of unknown primary were related to more dysphagia at baseline and at 12 months, respectively. Furthermore, UFND was associated with more severe dysphagia scored by physicians and patients and on VFS at 12 months.

Advances in knowledge: This is the first paper reporting a significant link between UFND and late dysphagia scored with VFS.”

According to the news reporters, the research concluded: “We advocate abandoning UFND and preserving neck dissection as a salvage option post-RT.”


Our news journalists report that additional information may be obtained by contacting S. Nuyts, Univ Leuven, University Hospital Leuven, Dept. of Radiat Oncol, KU Leuven, Leuven, Belgium. Additional authors for this research include D. Nevens, F. Duprez, A. Laenen, E. Dejaeger, W. De Neve, A. Goeleven and S. Deschuymer.

Keywords for this news article include: Leuven, Belgium, Europe, Digestive System Diseases and
Oncology - Squamous Cell Carcinoma

New Squamous Cell Carcinoma Study Findings Reported from Nanjing Medical University (miR-378a-3p exerts tumor suppressive function on the tumorigenesis of esophageal squamous cell carcinoma by targeting Rab10)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Oncology - Squamous Cell Carcinoma is now available. According to news reporting from Jiangsu, People’s Republic of China, by NewsRx journalists, research stated, “Esophageal squamous cell carcinoma (ESCC) is a life-threatening cancer with increasing incidence worldwide. MicroRNAs (miRs) have been reported to be involved in the progression of various types of cancer.”

The news correspondents obtained a quote from the research from Nanjing Medical University, “In previous studies, the expression of miR-378a-3p was shown to be reduced in ESCC tissues. However, the mechanism underlying the effect of miR-378a-3p in ESCC remains to be elucidated. By employing a reverse transcription-quantitative polymerase chain reaction, miR-378a-3p expression was tested in ESCC tissues and cell lines. In addition, the effects of miR-378a-3p on cell viability, proliferation, apoptosis, migration and invasion were studied using an MTT assay, an EdU assay, flow cytometry analysis, wound healing analysis and a Transwell assay. In the present study, the level of miR-378a-3p was significantly downregulated in ESCC clinical tissues and cell lines (EC109 and KYSE150). In addition, the overexpression of miR-378a-3p suppressed the viability, proliferation, migration and invasion of the ESCC cells. The upregulated expression of miR-378a-3p also increased the expression levels of B-cell lymphoma 2-associated X protein and caspase-3, and decreased the expression levels of matrix metalloproteinase (MMP)-2 and MMP-9, which attenuated ESCC tumorigenesis. Furthermore, Rab10 was confirmed to be a direct target gene of miR-378a-3p, and was negatively affected by miR-378a-3p. The silencing of Rab10 revealed antitumor effects in ESCC cell lines, and the expression of miR-378a-3p was negatively correlated with that of Rab10 in ESCC.”

According to the news reporters, the research concluded: “Collectively, miR-378a-3p may act as a tumor-suppressor in ESCC cells through negatively regulating Rab10.”

For more information on this research see: miR-378a-3p exerts tumor suppressive function on the tumorigenesis of esophageal squamous cell carcinoma by targeting Rab10. International Journal of Molecular Medicine, 2018;42(1):381-391. International Journal of Molecular Medicine can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.

Our news journalists report that additional information may be obtained by contacting Y.Q. Zhou, Nanjing Medical University, Affiliated Canc Hosp, Jiangsu Inst Canc Res, Dept. of Radiotherapy, Jiangsu Canc Hosp, Nanjing 210009, Jiangsu, People’s Republic of China. Additional authors for this research include X.J. Sun, T.T. Wang, L. Huang, J. Wen and N.X. Ding.

Keywords for this news article include: Jiangsu, People’s Republic of China, Asia, Squamous Cell Carcinoma, Health and Medicine, Carcinomas, Cell Line, Oncology, Nanjing Medical University.

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Enzymes and Coenzymes - Phosphotransferases (Alcohol Group Acceptor)

Researchers at Department of Pediatrics Target Phosphotransferases (Alcohol Group Acceptor) (The RNA-Binding Protein PCBP1 Functions as a Tumor Suppressor in Prostate Cancer by Inhibiting Mitogen Activated Protein Kinase 1)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Researchers detail new data in Enzymes and Coenzymes - Phosphotransferases (Alcohol Group Acceptor). According to news reporting originating from Jining, People’s Republic of China, by NewsRx correspondents, research stated, “Poly r(C) binding protein (PCBP) 1 or heterogeneous ribonucleoprotein (hnRNP) E1 is a RNA binding protein functional in multiple biological processes. In prostate cancer (PCa), PCBP1 loss was shown to be involved with increased stemness in PCacells; however, the underlying mechanism remains unclear.”

Our news editors obtained a quote from the research from the Department of Pediatrics, “The role of PCBP1 in prostate tumor formation was determined by xenograft assays. Immunoprecipitation and mass spectrometry were performed to find the pathways altered after PCBP1 knockdown. Cell proliferation, migration, invasion, and soft agar colony formation assays and xenograft assays were used to determine the role of target protein pathogenesis regulation and formation of PCa. QRT-PCR was performed to quantify relative mRNA expression. The expression of mitogen activated protein kinase 1 (MAPK1) or extracellular signal regulated kinase 2 (ERK2) was increased following PCBP1 loss. Attenuation of MAPK1 inhibited in vitro and in vivo tumorigenicity and metastasis in PCa cell line, PC3. Overexpression of MAPK1 in the PC3 cells increased the tumorigenicity and metastasis. Analysis of PCBP1 and MAPK1 mRNA levels in 25 PCa patients compared to tumor-adjacent normal tissue confirmed an inverse correlation between PCBP1 and MAPK1 expression.”

According to the news editors, the research concluded: “PCBP1 can act as a suppressor of tumor in prostate epithelial cells by inhibiting MAPK1 expression.”

For more information on this research see: The RNA-Binding Protein PCBP1 Functions as a Tumor Suppressor in Prostate Cancer by Inhibiting Mitogen Activated Protein Kinase 1. Cellular Physiology and Biochemistry, 2018;48(4):1747-1754. (Karger - http://www.karger.com/; Cellular Physiology and Biochemistry - http://content.karger.com/ProdukteDB/Produkte.asp?Aktion=JournalHome&ProduktNr=224332)

The news editors report that additional information may be obtained by contacting Y. Zhang, Dept. of Paediatrics, Affiliated Hospital of Jining Medical University, Jining, People’s Republic of China. Additional authors for this research include L. Meng, L. Xiao, R. Liu, Z. Li and Y.L Wang.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1159/000492315. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Jining, People’s Republic of China, Asia, Carrier Proteins, Enzymes and Coenzymes, Extracellular Signal Regulated MAP Kinases, Genetics, Health and Medicine, Intracellular Signaling Peptides and Proteins, Mitogen Activated Protein Kinase 1, Mitogen Activated Protein Kinases, Nucleoproteins, Oncology, Phosphotransferases (Alcohol Group Acceptor), Proline Directed Protein Kinases, Prostate Cancer, Prostatic Neoplasms, Protein Serine Threonine Kinases, RNA Binding Proteins, Tumor Suppression.

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Studies from University of Milan Yield New Data on Disease Biomarkers (Neurofilament light chain as disease biomarker in a rodent model of chemotherapy induced peripheral neuropathy)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators discuss new findings in Diagnostics and Screening - Disease Biomarkers. According to news originating from Monza, Italy, by NewsRx correspondents, research stated, “The objective of this study is to test the feasibility of using serum neurofilament light chain (NfL) as a disease biomarker in Chemotherapy Induced Peripheral Neuropathy (CIPN) since this easy accessible biological test may have a large impact on clinical management and safety of cancer patients. We performed this preclinical study using a well-characterized rat model based on repeated administration of the cytostatic drug vincristine (VCR, 0.2 mg/kg intravenously via the tail vein once/week for 4 times).”

Financial support for this research came from Associazione Italiana per la Ricerca sul Cancro.

Our news journalists obtained a quote from the research from the University of Milan, “Serial NfL serum concentration was measured using the in-house Simoa NfL assay and peripheral neuropathy onset was measured by sensory and motor nerve conduction studies. Serum NfL measure in untreated and VCR-treated rats demonstrated a steady, and significant increase during the course of VCR administration, with a final 4-fold increase with respect to controls (p <.001) when sign of axonopathy and loss of intraepidermal nerve fibers were clearly evident and verified by behavioral, neurophysiological and pathological examination. This simple monitoring approach based on serum NfL concentration measures may be easily translated to clinical practice and should be considered as a putative marker of CIPN severity in a typical oncology outpatient setting.”

According to the news editors, the research concluded: “Further studies are needed to validate its utility in cancer patients treated with different neurotoxic drugs.”


The news correspondents report that additional information may be obtained from C. Meregalli, Univ Milano Bicocca, NeuroMI, Monza, Italy. Additional authors for this research include G. Fumagalli, P. Alberti, A. Canta, V.A. Carozzi, A. Chiorazzi, L. Monza, E. Pozzi, A. Sandelius, K. Blennow, H. Zetterberg, P. Marmiroli and G. Cavaletti.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.1016/j.expneurol.2018.06.005. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Monza, Italy, Europe, Diagnostics and Screening, Diseases and Conditions, Peripheral Neuropathy, Drugs and Therapies, Health and Medicine, Disease Biomarkers, Chemotherapy, University of Milan.

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Oncology - Colon Cancer

New Findings from Rutgers State University in the Area of Colon Cancer Reported (High expression of leucine-rich repeat-containing 8A is indicative of a worse outcome of colon cancer patients by enhancing cancer cell growth and metastasis)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – Investigators publish new report on Oncology - Colon Cancer. According to news reporting originating from Newark, New Jersey, by NewsRx correspondents, research stated, “To survive, cells need to avoid excessive volume change that jeopardizes structural integrity and stability of the intracellular milieu. Searching for the molecular identity of volume-regulated anion channel (VRAC) has yielded multiple potential candidates, but none has been confirmed.”

Our news editors obtained a quote from the research from Rutgers State University, “Recently, it is reported that leucine-rich repeat-containing 8A (LRRC8A) is a main molecular determinant of VRAC current. The biological functions of LRRC8 family proteins are poorly understood, particularly in cancer. In the present study, we investigated LRRC8A in the most common cancers of the digestive system. LRRC8A proteins were found to be abundantly expressed in the esophagus, stomach, duodenum, colon, rectum, liver and pancreas. LRRC8A was elevated in 60% of colorectal cancer patient tissues, which was higher than that in patients with cancer of the esophagus, stomach, duodenum, liver and pancreas. Colon cancer patients with high-expressed LRRC8A had a survival time of 54.9 +/- 5.5 months, shorter than that of patients with low-expressed LRRC8A (77.1 +/- 3.7). Moreover, survival time (52.6 +/- 7.3 months) of patients with metastases in the lymph nodes was shorter than that of patients without positive lymph nodes (72.2 +/- 3.6); patients with positive lymph nodes and an elevated LRRC8A expression had the highest mortality rate (80%). These rates were not observed in rectal cancer. After LRRC8A protein was knocked down in colon cancer HCT116 cells, VRAC currents, migration and tumorigenesis in nude mice were significantly inhibited.”

According to the news editors, the research concluded: “We propose that LRRC8A could be a novel prognostic biomarker for colon cancer patient survival, and that the elevated expression of LRRC8A may enhance cancer cell growth and metastasis, and worsen the outcome of patients.”

For more information on this research see: High expression of leucine-rich repeat-containing 8A is indicative of a worse outcome of colon cancer patients by enhancing cancer cell growth and metastasis. Oncology Reports, 2018;40(3):1275-1286. Oncology Reports can be contacted at: Spandidos Publ Ltd, Pob 18179, Athens, 116 10, Greece.


Keywords for this news article include: Newark, New Jersey, United States, North and Central America, Branched-Chain Amino Acids, Hemic and Immune Systems, Essential Amino Acids, Health and Medicine, Lymphoid Tissue, Colon Cancer, Lymph Nodes, Immunology, Oncology, Leucine, Rutgers State University.

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New Herpesvirus Findings from Sichuan Agricultural University Discussed (Programmed cell death: the battlefield between the host and alpha-herpesviruses and a potential avenue for cancer treatment)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – A new study on Herpesvirus is now available. According to news reporting originating in Sichuan, People’s Republic of China, by NewsRx journalists, research stated, “Programed cell death is an antiviral mechanism by which the host limits viral replication and protects uninfected cells. Many viruses encode proteins resistant to programed cell death to escape the host immune defenses, which indicates that programed cell death is more favorable for the host immune defense.”

The news reporters obtained a quote from the research from Sichuan Agricultural University, “Alpha-herpesviruses are pathogens that widely affect the health of humans and animals in different communities worldwide. Alpha-herpesviruses can induce apoptosis, autophagy and necroptosis through different molecular mechanisms. This review concisely illustrates the different pathways of apoptosis, autophagy, and necroptosis induced by alpha-herpesviruses. These pathways influence viral infection and replication and are a potential avenue for cancer treatment.”

According to the news reporters, the research concluded: “This review will increase our understanding of the role of programed cell death in the host immune defense and provides new possibilities for cancer treatment.”

For more information on this research see: Programmed cell death: the battlefield between the host and alpha-herpesviruses and a potential avenue for cancer treatment. Oncotarget, 2018;9(55):30704-30719.

Our news correspondents report that additional information may be obtained by contacting C. Zhao, Institute of Preventive Veterinary Medicine, Sichuan Agricultural University, Wenjiang, Chengdu City 611130, Sichuan, People’s Republic of China. Additional authors for this research include M. Wang, A. Cheng, Q. Yang, Y. Wu, D. Zhu, S. Chen, M. Liu, X. Zhao, R. Jia, K. Sun and X. Chen.

The direct object identifier (DOI) for that additional information is: https://doi.org/10.18632/oncotarget.25694. This DOI is a link to an online electronic document that is either free or for purchase, and can be your direct source for a journal article and its citation.

Keywords for this news article include: Sichuan, People’s Republic of China, Asia, Cancer, Drugs and Therapies, Health and Medicine, Herpesvirus, Oncology, Virology.

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CURE Media Group
CURE Media Group Seeks Nominations for the 2019 Extraordinary Healer® Award for Oncology Nursing

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – CURE Media Group, the nation’s leading digital and print media enterprise focused on patients with cancer, has opened nominations for its 2019 Extraordinary Healer® Award for Oncology Nursing. This yearly honor recognizes oncology nurses who have made great strides in the field of oncology or who have demonstrated commendable compassion in patient care.

“We are excited to be accepting nominations for this year’s Extraordinary Healer® Award for Oncology Nursing and thrilled to recognize another exceptional oncology nurse who makes a real difference in the
care of their patients,” said Michael J. Hennessy Jr., president of MJH Associates Inc., parent company of CURE Media Group.

Nominations will be accepted through Jan. 1 and can be submitted by current and former patients, caregivers, or peers in the form of a 700- to 1,000-word essay that should reflect the candidate’s outstanding contributions to the field of oncology or in a patient’s life. The selection committee will choose three finalists who will be honored at a gala reception held in conjunction with the Oncology Nursing Society’s 44th Annual Congress, which will take place in April 2019 in Anaheim, California. One nurse ultimately will be recognized with the 2019 Extraordinary Healer® Award for Oncology Nursing.

For more information and to submit a nomination online, visit https://www.curetoday.com/extraordinaryhealer. About CURE Media Group: CURE Media Group is the leading resource for cancer updates, research and education. It combines a full suite of media products, including an industry-leading website, www.curetoday.com; innovative video programs, such as CURE Connections®; a series of widely attended live events; and CURE® magazine, which reaches over 1 million readers. CURE Media Group is part of the Cranbury, New Jersey-based MJH Associates Inc. family of businesses, which includes the acclaimed OncLive® (http://www.onclive.com) platform of resources for the practicing oncologist. For more information, visit www.curetoday.com or www.mjhassoc.com. View source version on businesswire.com: https://www.businesswire.com/news/home/20180806005422/en/

Keywords for this news article include: CURE Media Group, Health and Medicine, Oncology, United States.

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**GRAIL Inc**

**Patent Application Titled “Methods For High Efficiency Library Preparation Using Double-Stranded Adapters” Published Online (USPTO 20180216252)**

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – According to news reporting originating from Washington, D.C., by NewsRx journalists, a patent application by the inventor Jung, Byoungsok (Atherton, CA), filed on December 22, 2017, was made available online on August 2, 2018.

The assignee for this patent application is GRAIL Inc. (Menlo Park, California, United States).

Reporters obtained the following quote from the background information supplied by the inventors: “Analysis of circulating cell-free nucleic acids (e.g., cell-free DNA (cfDNA)) using next generation sequencing (NGS) is recognized as a valuable diagnostic tool for many diseases. Identifying rare variants indicative of cancer using NGS often requires deep sequencing of circulating cfDNA from a patient test sample. Alternatively, many tumor-derived variants can also be identified using less expensive lower depth, whole exome sequencing approaches. However, errors introduced during sample preparation and sequencing can make accurate identification of variants difficult.

“Duplexed sequence reads are critical for error correction in sequencing applications that typically use low input levels of material and/or have limited sequencing coverage (e.g., analysis of cfDNA). For error correction, particularly in limited depth exome sequencing, it is important to avoid sequencing non-duplex DNA molecules. Current protocols for preparing a sequencing library from double-stranded DNA typically includes DNA end repair, 3’ end A-tailing, ligation of sequencing adapters to the double-stranded (duplexed) DNA, and polymerase chain reaction (PCR) amplification to enrich for adapter ligated DNA molecules. The procedure requires four successful ligation events to obtain sequenceable fragments for both the forward and reverse strands of a double-stranded DNA molecule. If a single ligation event fails during library
preparation, one strand of the duplexed library fragment will not be amplified and a non-duplexed read will be observed during sequence analysis. However, as one of skill in the art would readily recognize, these individual ligation events are not 100% efficient, and sequence information from the test sample can be lost. Accordingly, there is a need in the art for new methods of preparing sequencing libraries that enrich for duplexed DNA molecules, thereby increasing duplex reads in sequencing.

In addition to obtaining background information on this patent application, NewsRx editors also obtained the inventor’s summary information for this patent application: “Aspects of the invention include methods for preparing a sequencing library from a DNA-containing test sample. In one aspect, the present invention is directed to methods for rescuing one or more partially ligated DNA fragments to enhance library preparation conversion efficiencies. In other aspects, the methods can be used to improve recovery of duplex sequence information from double-stranded DNA.

“In one embodiment, the present invention is directed to a method for preparing a double-stranded DNA sequencing library, the method comprising the following steps: (a) obtaining a test sample comprising a plurality of double-stranded DNA (dsDNA) fragments, wherein the dsDNA fragments comprise a forward strand and a reverse strand; (b) ligating double-strand DNA adapters to both ends of the dsDNA fragments; and (c) extending unligated 3’-ends of the dsDNA fragments with a DNA polymerase to create dsDNA fragment-adapter templates to prepare a sequencing library. In some embodiments, the dsDNA fragment-adapter templates are further amplified prior to sequencing. In other embodiments, one or more steps of the method may be carried out in a single reaction step. For example, steps (b) through (c) may be carried out in a single reaction tube utilizing a reaction mixture comprising a first set of dsDNA adapters, a ligase, a polymerase (optionally having strand-displacement activity), a terminal deoxynucleotidyl transferase, and a second set of ssDNA oligonucleotides or primers (e.g., including sequencing adapters and/or a universal primer). Optionally, the dsDNA molecules can be purified, and optionally fragmented, from test sample prior to ligation step (b).

“In another embodiment, the present invention is directed to a method for preparing a double-stranded DNA sequencing library, the method comprising the following steps: (a) obtaining a test sample comprising a plurality of double-stranded DNA (dsDNA) fragments, the dsDNA fragments comprising a forward strand and a reverse strand; (b) adding double-stranded adapters to the dsDNA fragments and ligating the double-strand adapters to both ends of the dsDNA fragments; (c) extending unligated 3’-ends of the dsDNA fragments with a DNA polymerase to create dsDNA fragment-adapter templates, wherein the polymerase further comprises strand displacement activity; (d) adding a poly-adenine tail to the 3’-ends of the dsDNA fragment-adapter templates; (e) adding a set of ssDNA oligonucleotides (or primers) and hybridizing the ssDNA oligonucleotides to the dsDNA fragment-adapter templates; and (f) extending the set of ssDNA oligonucleotides to create a dsDNA sequencing library. In some embodiments, one or more steps of the method may be carried out in a single reaction step. For example, steps (b) through (f) may be carried out in a single reaction tube utilizing a reaction mixture comprising a first set of dsDNA adapters, a ligase, a polymerase (optionally having strand-displacement activity), a terminal deoxynucleotidyl transferase, and a second set of ssDNA oligonucleotides or primers (e.g., including sequencing adapters and/or a universal primer). Optionally, the dsDNA molecules can be purified, and optionally fragmented, from test sample prior to ligation step (b).

The claims supplied by the inventors are:

1. (canceled)

2. A method for preparing a sequencing library from a test sample comprising a plurality of double-strand DNA fragments: (a) obtaining a test sample comprising a plurality of double-stranded DNA (dsDNA) fragments, the dsDNA fragments comprising a forward strand and a reverse strand; (b) adding double-stranded adapters to the dsDNA fragments and ligating the double-strand adapters to both ends of the dsDNA fragments; (c) extending unligated 3’-ends of the dsDNA fragments with a DNA polymerase to create dsDNA fragment-adapter templates, wherein the polymerase further comprises strand displacement activity; (d) adding a poly-adenine tail to the 3’-ends of the dsDNA fragment-adapter templates; and (e) adding a set of...
ssDNA oligonucleotides and hybridizing the ssDNA adapters to the dsDNA fragment-adapter templates; and (f) extending the set of ssDNA oligonucleotides to create a dsDNA sequencing library.

3. The method of claim 2, wherein the dsDNA sequencing library is sequenced to obtain sequence reads.

4. The method of claim 3, wherein the sequence reads are obtained from next-generation sequencing (NGS).

5. The method of claim 3, wherein the sequence reads are obtained from massively parallel sequencing using sequencing-by-synthesis.

6. The method of claim 2, wherein the test sample comprises a plurality of cell-free DNA molecules.

7. The method of claim 2, wherein the dsDNA sequencing library is sequenced to obtain sequence reads.

8. The method of claim 6, wherein the test sample is from a whole blood, a blood fraction, plasma, serum, urine, fecal, saliva, a tissue biopsy, pleural fluid, pericardial fluid, cerebral spinal fluid, or peritoneal fluid test sample.

9. The method of claim 6, wherein the test sample includes nucleic acids originating from healthy cells and from cancer cells.

10. The method of claim 2, wherein the DNA polymerase used in step © is Bacillus stearothermophilus DNA polymerase (Bst Pol) or phi29 DNA polymerase.

11. The method of claim 2, wherein the dsDNA adapters comprise a unique molecule tag.

12. The method of claim 11, wherein the dsDNA adapters further comprise a universal primer.

13. The method of claim 2, wherein a terminal deoxynucleotidyl transferase catalyzes the addition of the 3`-poly-adenine tail in step (d).

14. The method of claim 2, wherein the set of ssDNA oligonucleotides comprise amplification primers.

15. The method of claim 14, where the set of ssDNA oligonucleotides further comprise an indexing sequence.

16. The method of claim 2, wherein the set of ssDNA oligonucleotides comprise a first ssDNA oligonucleotide and a second ssDNA oligonucleotide, wherein the first and second ssDNA oligonucleotides are complementary to a region on the dsDNA adapters.

17. The method of claim 2, wherein the second ssDNA oligonucleotides further comprise a poly-T region.

18. The method of claim 14, wherein the method further comprises PCR amplification of the dsDNA fragment-adapter templates to create a sequencing library.”


Keywords for this news article include: Business, California, DNA Research, Enzymes and Coenzymes, GRAIL Inc., Genetics, Ligases, Menlo Park, North and Central America, Polymerase, Transferases, United States.

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Researchers Submit Patent Application, “Tamper Proof System For Dispensing Pills”, for Approval (USPTO 20180215526)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – From Washington, D.C., NewsRx journalists report that a patent application by the inventor Hsu, John (Rowland Heights, CA), filed on January 29, 2018, was made available online on August 2, 2018.

No assignee for this patent application has been made.

News editors obtained the following quote from the background information supplied by the inventors: “A person dies from an opioid overdose every 20 minutes. 30,000 people die a year. It is an epidemic that difficult to treat. Over 90% of people who overdose on prescription painkillers continue to use them and this use cost the US 78.5 billion dollars in 2013 (Curtis et al., Medical Care, 54:901-906 (2016) doi: 10.1097/MLR.0000000000000625). “

“Opioids include prescription drugs such as oxycodone (OXYCONTIN.RTM., OXECTA.RTM., ROXICODON EC)), oxycodone and acetaminophen (PERCOCET.RTM., ENDOCET.RTM., ROXICET.RTM. ), hydrocodone (HYSSINGLA ER.RTM., ZOHYDRO ER.RTM.), hydrocodone and acetaminophen (LORCET.RTM., LORTAB.RTM., NORCO.RTM., VICODIN.RTM.), hydromorphone (DILAUDID.RTM.), meperidine (DEMEROL.RTM.), methadone, codeine, morphine, and fentanyl as well as illegal drugs such as heroin.

“Government policy to limit opioids will not treat pain nor stem the addiction problem. It will worsen the problem for addicts and compliant patients. Those who cannot get opioids turn to heroin which is becoming increasingly more dangerous with the addition of Car-Fentanyl. Studies from the CDC show that 100 million people are taking opioids for chronic pain and the government wants to limit their access to opioids. What about the multitude of studies that report cancer patients are consistently under treated for cancer pain? Is the government forsaking 100 million patients to save the 18,000 patients they are attempting to control who actually die from prescription opioids? Those 100,000 million patients need a solution to prevent their opioids used for their treatment of pain from being taken away from them.

“Doctors write prescriptions correctly. Pharmacist fill prescriptions correctly. Patients receive a bottle of opioids containing 30 to 120 pills of opioids and therein lies a problem. The patient can take 1 pill or 120 pills. Patient compliance is a problem. This is further compounded by the sharing of opioids or sharing of excess opioid pills. Most of those who abuse prescription opioids get them for free from a friend or relative. However, those who are at highest risk of overdose (using prescription opioids non-medically 200 or more days a year) get them in ways that are different from those who use them less frequently. These people get opioids using their own prescriptions (27 percent), from friends or relatives for free (26 percent), buying from friends or relatives (23 percent), or buying from a drug dealer (15 percent). Those at highest risk of overdose are about four times more likely than the average user to buy the drugs from a dealer or other stranger.

“The solution a smart pill dispenser. This tamper proof medical device would be only usable by the patient to whom the prescription was written because the device would be controlled by a fingerprint biometric lock. This would prevent sharing. The device security would also supplemented by a digital combination code which then allows activation of a push button dispenser similar to the shutter button on a camera, but only upon signal from a computer that it is time to take the medication. The device can be a stand alone device activated by a computer network signal or one activated by a mobile application on a cell phone, tablet, or similar.

“For use via a mobile application, a wifi or a short range wireless receiver/transmitter would connect the pill dispenser to a computer app. The app sends a signal to the pill dispenser to only allow the number of pills prescribed at the interval prescribed to be dispensed from the pill dispenser. Patient compliance would be ensured. Optionally, the app could then connect via short range wireless, wifi, cellular or SMS to
the physician’s electronic medical record. The physician could also bidirectionally use his medical record to send a HIPPA compatible message via short range wireless, wifi, cellular or SMS to the mobile app to allow a change in the prescription.

“The design of the device conceptually would be very simple. The mobile app or computer network would at certain time intervals alert and activate the fingerprint print biometric controller. The patient would confirm operation of the pill dispenser with a fingerprint which would when activate a digital combination lock to be input by the patient. The lock would allow operation of a shutter button as in a camera. When the shutter button is pressed once for one pain pill or twice for 2 pain pills one or two pills would be dispensed. The mechanics of the dispensing mechanism would resemble a robust ‘pen candy dispenser’.”

As a supplement to the background information on this patent application, NewsRx correspondents also obtained the inventor’s summary information for this patent application: “In one aspect, the invention provides a tamper proof system for dispensing prescription pills, in the manner prescribed, to a patient holding the prescription, the system comprising:

“(a) a closed hollow storage container for pills having a pill dispenser connected to a shutter device that opens the container only upon communication with software on a personal computer; the storage container having a communication means comprising a short range wireless connectivity device to communicate with the personal computer; (b) a personal computer installed with software, the personal computer having a fingerprint biometric lock, a means to input a digital combination lock code, and short range wireless connectivity device to communicate with the storage container; © software that regulates the timing and number of pills to be dispensed according to the patient’s prescription; wherein the software communicates with the storage container via the short range wireless connectivity device; and (d) a tamper proof feature on the spring loaded shutter device, the feature comprising a cyano-acrylate; wherein the software communicates a prescribed interval and number of pills to be dispensed to the storage container; and wherein upon a signal from the software on the personal computer, the patient activates, in sequence, the fingerprint biometric lock on the personal computer, inputs the digital combination code into the software on the personal computer and via a short range wireless signal the personal computer unlocks the shutter button on the storage container allowing only a controlled number of pills to be dispensed to the patient as prescribed after the patient pushes the now unlocked shutter on the storage container device.

“In one embodiment, the personal computer further communicates with a remote computer comprising a physician electronic medical record (EMR) or a pharmacy computer via the software installed on the personal computer. In another embodiment the communication between the computer and the EMR is via short range wireless, SMS, cellular or wifi.

“In another embodiment, the prescribed interval and number of pills dispensed can be changed by the electronic physician medical record by inputting a new prescription into the electronic physician medical record and communicating the new prescription to the software installed in the personal computer.

“In one embodiment, the personal computer is a cellular phone, a tablet, a laptop computer, or a desk computer.

“In one embodiment, the storage container is a square or rectangular box, an oval container, an oblong container, a cylindrical container, or a pen-shaped container. In another embodiment, the storage container has a single internal unit for storing pills. In another embodiment, the storage container has multiple internal units for storing pills.

“In one aspect, the present invention provides a tamper proof, stand alone system for dispensing prescription pills, in the manner prescribed, to a patient holding the prescription, the system comprising: a closed hollow storage container for pills having a pill dispenser connected to a spring loaded shutter device comprising a tamper proof feature; the storage container having a communication means comprising a short range wireless connectivity device or a wifi device to communicate with a remote computer; a fingerprint biometric lock, and a means to input a digital combination lock code; wherein the remote computer communicates a prescribed interval and number of pills to be dispensed to the storage container; and wherein upon a signal from the remote computer, the patient activates, in sequence, the fingerprint
biometric lock on the storage container and inputs the digital combination code on the storage container, which unlocks the shutter button on the storage container allowing only a controlled number of pills to be dispensed to the patient as prescribed after the patient pushes the shutter on the storage container device.

“In one embodiment, the remote computer is a physician electronic medical record (EMR) or a pharmacy computer.

“In another embodiment, the prescribed interval and number of pills dispensed can be changed by the electronic physician medical record or pharmacy computer by inputting a new prescription into the electronic physician medical record and communicating the new prescription to the storage container.

“In one embodiment, the storage container is a square or rectangular box, an oval container, an oblong container, a cylindrical container, a or a pen-shaped container.

“In another embodiment, the storage container has a single internal unit for storing pills.

“In another embodiment, the storage container has multiple internal units for storing pills.

“Other features and advantages of aspects of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of aspects of the invention.”

The claims supplied by the inventors are:

“1. A tamper proof system for dispensing prescription pills, in the manner prescribed, to a patient holding the prescription, the system comprising: (a) a closed hollow storage container for pills having a pill dispenser connected to a spring-loaded shutter device that opens the container only upon communication with software on a personal computer; the storage container having a communication means comprising a short range wireless connectivity device to communicate with the personal computer; (b) a personal computer installed with software, the personal computer having a fingerprint biometric lock, a means to input a digital combination lock code, and short range wireless connectivity device to communicate with the storage container; © software that regulates the timing and number of pills to be dispensed according to the patient’s prescription, wherein the software communicates with the storage container via the short range wireless connectivity device; and (d) a tamper proof feature on the spring loaded shutter device, the feature comprising a cyano-acrylate; wherein the software communicates a prescribed interval and number of pills to be dispensed to the storage container; and wherein upon a signal from the software on the personal computer, the patient activates, in sequence, the fingerprint biometric lock on the personal computer, inputs the digital combination lock code, and short range wireless connectivity device to communicate with the storage container.

2. The system of claim 1, wherein the personal computer further communicates with a remote computer comprising a physician electronic medical record (EMR) or a pharmacy computer via the software installed on the personal computer.

3. The system of claim 2, wherein the communication between the computer and the EMR is via short range wireless, SMS, cellular or wifi.

4. The system of claim 2, wherein the prescribed interval and number of pills dispensed can be changed by the electronic physician medical record by inputting a new prescription into the electronic physician medical record and communicating the new prescription to the software installed in the personal computer.

5. The system of claim 1, wherein the personal computer is a cellular phone, a tablet, a laptop computer, or a desk computer.

6. The system of claim 1, wherein the storage container is a square or rectangular box, an oval container, an oblong container, a cylindrical container, a or a pen-shaped container.

7. The system of claim 1, wherein the storage container has a single internal unit for storing pills.

8. The system of claim 1, wherein the storage container has multiple internal units for storing pills.

9. A tamper proof, stand alone system for dispensing prescription pills, in the manner prescribed, to a patient holding the prescription, the system comprising: a closed hollow storage container for pills having
a spring loaded pill dispenser connected to a shutter device, wherein the spring loaded shutter device has 
a tamper proof feature comprising cyano-acrylate; the storage container having a communication means 
comprising a short range wireless connectivity device or a wifi device to communicate with a remote 
computer; a fingerprint biometric lock, and a means to input a digital combination lock code; wherein the 
remote computer communicates a prescribed interval and number of pills to be dispensed to the storage 
container; and wherein upon a signal from the remote computer, the patient activates in sequence the 
fingerprint biometric lock on the storage container and inputs the digital combination code on the storage 
container within the dispensing window, which unlocks the shutter button on the storage container allowing 
only a controlled number of pills to be dispensed to the patient as prescribed after the patient pushes the 
shutter on the storage container device.

“10. The system of claim 9, wherein the remote computer is a physician electronic medical record 
(EMR) or a pharmacy computer.

“11. The system of claim 2, wherein the prescribed interval and number of pills dispensed can be 
changed by the electronic physician medical record or pharmacy computer by inputting a new prescription 
into the electronic physician medical record and communicating the new prescription to the storage 
container.

“12. The system of claim 1, wherein the storage container is a square or rectangular box, an oval 
container, an oblong container, a cylindrical container, a or a pen-shaped container.

“13. The system of claim 1, wherein the storage container has a single internal unit for storing pills.

“14. The system of claim 1, wherein the storage container has multiple internal units for storing pills.”

For additional information on this patent application, see: Hsu, John. Tamper Proof System For 
netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PG01&p=1&u=%2Fnetahtml%2FPTO
%2Fsrchnum.html&r=1&f=G&l=50&s1=%2220180215526%22.PGNR&OS=DN/20180215526&RS
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Patent Application Titled “Image Processing Apparatus, Endoscope System, And Image Processing Method” Published Online (USPTO 20180214004)

2018 AUG 20 (NewsRx) – By a News Reporter-Staff News Editor at Cancer Daily – According to news 
reporting originating from Washington, D.C., by NewsRx journalists, a patent application by the inventor 
KAMON, Shumpei (Kanagawa, Japan), filed on March 27, 2018, was made available online on August 2, 
2018.

The assignee for this patent application is Fujifilm Coporation (Tokyo, Japan).

Reporters obtained the following quote from the background information supplied by the inventors: 
“The present invention relates to an image processing apparatus, an endoscope system, and an image 
processing method for calculating data, such as numerical values to be used for diagnosis, by using an 
endoscope image captured by an endoscope.

“In the medical field, diagnosis using an endoscope system including a light source device, an endoscope, 
and a processor device has been widely performed. In the diagnosis using the endoscope system, an insertion
part of the endoscope is inserted into a subject, illumination light is emitted from the distal end portion, and an observation target irradiated with the illumination light (mucous membrane or the like inside the subject) is imaged by an imaging sensor mounted in the distal end portion of the endoscope. Then, an image (hereinafter, referred to as an endoscope image) of the observation target is generated using an image signal obtained by the imaging, and is displayed on the monitor.

"Usually, in the endoscope system, an endoscope image in which the observation target can be observed with a natural color shade (hereinafter, referred to as a normal light image) is displayed by imaging the observation target irradiated with white illumination light (also referred to as normal light). In addition, an endoscope system that obtains an endoscope image (hereinafter, referred to as a special observation image) emphasizing a blood vessel, a pit pattern, and the like of the observation target by using light having a specific wavelength range as illumination light has also become widespread. In the case of performing diagnosis using an endoscope image, information of blood vessels, pit patterns, and the like is an important diagnostic material. Therefore, special observation images emphasizing these are particularly useful for diagnosis.

"In recent years, an endoscope system or a diagnostic assistance apparatus is also known that assists a doctor's diagnosis by calculating the depth, thickness, density, and the like of blood vessels using an endoscope image (or an image signal used to generate an endoscope image) (JP2007-061638A and JP2011-217798A (corresponding to US2011/0245642A1)). In addition, an endoscope system is also known in which division into a surface layer, a middle layer, and a deep layer (or a surface layer and a middle deep layer) is performed according to the depth with the mucosal surface as a reference and the oxygen saturation at each of the layers is calculated (JP2012-125501A (corresponding to U.S. Pat. No. 9,044,163B2) and JP2012-213550A (corresponding to U.S. Pat. No. 9,014,772B2))."

In addition to obtaining background information on this patent application, NewsRx editors also obtained the inventor's summary information for this patent application: "As in JP2007-061638A and JP2011-217798A, information regarding blood vessels that can be calculated using an endoscope image (hereinafter, referred to as blood vessel information) is useful information for diagnosis. However, a doctor does not perform diagnosis based on only one of the pieces of blood vessel information, such as the depth, thickness, density, and the like of blood vessels, but performs diagnosis by considering a plurality of pieces of blood vessel information in a complex manner. For example, the thickness of the blood vessel and the density of the blood vessel are useful blood vessel information for diagnosis. However, the state of the observation target is not determined just because the thickness of the blood vessel is a specific thickness or the density of the blood vessel is a specific density, but diagnosis is performed by taking into consideration a plurality of pieces of blood vessel information, such as a case where the thickness of the blood vessel is equal to or greater than a specific thickness and the density of the blood vessel is equal to or greater than a specific value and accordingly the state of the observation target is a specific lesion.

"In accordance with the actual condition of the multifaceted and complex diagnosis described above, in recent years, an endoscope system or an image processing apparatus for analyzing an endoscope image is required to assist a doctor's diagnosis by calculating more intuitive and useful information or the like than the blood vessel information calculated in the above JP2007-061638A and JP2011-217798A.

"In the endoscope image, pieces of information in the submucosal depth direction are superimposed. Accordingly, it is not easy to distinguish the pieces of information in the submucosal depth direction by the endoscope image. For example, it is left to the sensory determination of an experienced doctor to distinguish and grasp the state of a blood vessel located at the surface layer of the mucous membrane (hereinafter, referred to as a surface layer blood vessel) and the state of a blood vessel located at the middle deep layer of the mucous membrane (hereinafter, referred to as a middle deep layer blood vessel). Therefore, it is desirable that the endoscope system or the image processing apparatus for analyzing the endoscope image calculates information regarding the blood vessel distinctively for each submucosal depth to assist the diagnosis.

"Regarding this point, the endoscope systems disclosed in JP2012-125501A and JP2012-213550A calculate the oxygen saturation for each submucosal depth. Accordingly, a higher diagnostic assistance
effect than in the previous endoscope systems is obtained. However, the oxygen saturation is calculated by
the endoscope systems disclosed in JP2012-125501A and JP2012-213550A for each submucosal depth, and
the oxygen saturation is blood vessel information that requires consideration of other information. For this
reason, it is still required to calculate more intuitive and useful information or the like to assist diagnosis.

“It is an object of the present invention to provide an image processing apparatus, an endoscope system,
and an image processing method for assisting diagnosis more effectively by calculating more intuitive and
useful information than blood vessel information for a specific submucosal depth.

“An image processing apparatus of the present invention comprises: an image acquisition unit that
acquires an endoscope image obtained by imaging an observation target with an endoscope; a blood vessel
extraction unit that extracts a blood vessel for each depth at a specific depth of the observation target from
the endoscope image; a blood vessel information calculation unit that calculates blood vessel information
for each depth regarding the blood vessel extracted by the blood vessel extraction unit; and a blood vessel
parameter calculation unit that calculates a blood vessel parameter for each depth, which is relevant to
the blood vessel at the specific depth, by calculation for each depth using the blood vessel information.

“It is preferable that the blood vessel information is the number of blood vessels extracted by the
blood vessel extraction unit, a thickness, a change in thickness, complexity of thickness change, a length,
a change in length, the number of branches, a branching angle, a distance between branch points, the
number of crossings, a depth, a height difference, an inclination, an area, a density, an interval, a contrast,
a color, a color change, a degree of meandering, blood concentration, oxygen saturation, a proportion of
arteries, a proportion of veins, concentration of administered coloring agent, a running pattern, or a blood
flow rate.

“It is preferable that the blood vessel parameter calculation unit calculates the blood vessel parameter
of the specific depth using the blood vessel information calculated for the blood vessel at the specific depth.

“It is preferable that the blood vessel parameter calculation unit calculates the blood vessel parameter
of the specific depth using the blood vessel information calculated for blood vessels having depths other
than the specific depth.

“It is preferable that the blood vessel parameter calculation unit calculates the blood vessel parameter
by weighting a plurality of pieces of the blood vessel information.

“It is preferable that the blood vessel parameter calculation unit performs the weighting using a
coefficient determined by machine learning.

“It is preferable that the blood vessel information calculation unit calculates a statistic in a region of
interest, which is set in a part or entirety of the endoscope image, as the blood vessel information.

“It is preferable that the statistic is a maximum value, a minimum value, an average value, a median,
or a mode.

“It is preferable that, in a case of setting the region of interest in a part of the endoscope image, the
blood vessel information calculation unit calculates the blood vessel information of the region of interest
and also calculates the blood vessel information for a region other than the region of interest and that
the blood vessel parameter calculation unit calculates the blood vessel parameter using the blood vessel
information of the region of interest and the blood vessel information of the region other than the region
of interest.

“It is preferable to further comprise a determination unit that determines a state of a mucous membrane
of the observation target using the blood vessel parameter.

“It is preferable that the determination unit determines the state of the mucous membrane of the
observation target according to a change of the blood vessel parameter with respect to a depth.

“It is preferable that the determination unit determines the state of the mucous membrane of the
observation target using a plurality of the blood vessel parameters.

“It is desirable that the determination unit determines the state of the mucous membrane of the
observation target to be one of three or more kinds of states including normal, adenoma, and cancer using
the blood vessel parameter.
"It is desirable that the determination unit determines the state of the mucous membrane of the observation target to be one of normal, hyperplastic polyp, SSA/P, adenoma, laterally spreading tumor, and cancer using the blood vessel parameter.

"It is preferable that the determination unit determines a stage of cancer using the blood vessel information or the blood vessel parameter in a case where the state of the mucous membrane of the observation target is cancer.

"An endoscope system of the present invention comprises: an endoscope that images an observation target; and an image processing apparatus having an image acquisition unit that acquires an endoscope image obtained by imaging the observation target with the endoscope, a blood vessel extraction unit that extracts a blood vessel for each depth at a specific depth of the observation target from the endoscope image, a blood vessel information calculation unit that calculates blood vessel information for each depth regarding the blood vessel extracted by the blood vessel extraction unit, and a blood vessel parameter calculation unit that calculates a blood vessel parameter for each depth, which is relevant to the blood vessel at the specific depth, by calculation for each depth using the blood vessel information.

"An image processing method of the present invention includes: a step in which an image acquisition unit acquires an endoscope image obtained by imaging an observation target with an endoscope; a step in which a blood vessel extraction unit extracts a blood vessel for each depth at a specific depth of the observation target from the endoscope image; a step in which a blood vessel information calculation unit calculates blood vessel information for each depth regarding the blood vessel extracted by the blood vessel extraction unit; and a step in which a blood vessel parameter calculation unit calculates a blood vessel parameter for each depth, which is relevant to the blood vessel at the specific depth, by calculation for each depth using a plurality of pieces of the blood vessel information.

"Since the image processing apparatus, the endoscope system, and the image processing method of the present invention calculate more intuitive and useful blood vessel parameters than blood vessel information for a specific submucosal depth, it is possible to assist the doctor’s diagnosis more directly and effectively than in the related art."

The claims supplied by the inventors are:

"1. An image processing apparatus, comprising: an image acquisition unit that acquires an endoscope image obtained by imaging an observation target with an endoscope; a blood vessel extraction unit that extracts a blood vessel for each depth at a specific depth of the observation target from the endoscope image; a blood vessel information calculation unit that calculates blood vessel information for each depth regarding the blood vessel extracted by the blood vessel extraction unit; and a blood vessel parameter calculation unit that calculates a blood vessel parameter for each depth, which is relevant to the blood vessel at the specific depth, by calculation for each depth using the blood vessel information.

"2. The image processing apparatus according to claim 1, wherein the blood vessel information is the number of blood vessels extracted by the blood vessel extraction unit, a thickness, a change in thickness, complexity of thickness change, a length, a change in length, the number of branches, a branching angle, a distance between branch points, the number of crossings, a depth, a height difference, an inclination, an area, a density, an interval, a contrast, a color, a color change, a degree of meandering, blood concentration, oxygen saturation, a proportion of arteries, a proportion of veins, concentration of administered coloring agent, a running pattern, or a blood flow rate.

"3. The image processing apparatus according to claim 1, wherein the blood vessel parameter calculation unit calculates the blood vessel parameter of the specific depth using the blood vessel information calculated for the blood vessel at the specific depth.

"4. The image processing apparatus according to claim 1, wherein the blood vessel parameter calculation unit calculates the blood vessel parameter of the specific depth using the blood vessel information calculated for blood vessels having depths other than the specific depth.

"5. The image processing apparatus according to claim 1, wherein the blood vessel parameter calculation unit calculates the blood vessel parameter by weighting a plurality of pieces of the blood vessel information.
6. The image processing apparatus according to claim 5, wherein the blood vessel parameter calculation unit performs the weighting using a coefficient determined by machine learning.

7. The image processing apparatus according to claim 1, wherein the blood vessel information calculation unit calculates a statistic in a region of interest, which is set in a part or entirety of the endoscope image, as the blood vessel information.

8. The image processing apparatus according to claim 7, wherein the statistic is a maximum value, a minimum value, an average value, a median, or a mode.

9. The image processing apparatus according to claim 7, wherein, in a case of setting the region of interest in a part of the endoscope image, the blood vessel information calculation unit calculates the blood vessel information of the region of interest and also calculates the blood vessel information for a region other than the region of interest, and the blood vessel parameter calculation unit calculates the blood vessel parameter using the blood vessel information of the region of interest and the blood vessel information of the region other than the region of interest.

10. The image processing apparatus according to claim 1, further comprising: a determination unit that determines a state of a mucous membrane of the observation target using the blood vessel parameter.

11. The image processing apparatus according to claim 10, wherein the determination unit determines the state of the mucous membrane of the observation target according to a change of the blood vessel parameter with respect to a depth.

12. The image processing apparatus according to claim 10, wherein the determination unit determines the state of the mucous membrane of the observation target using a plurality of the blood vessel parameters.

13. The image processing apparatus according to claim 10, wherein the determination unit determines the state of the mucous membrane of the observation target to be one of three or more kinds of states including normal, adenoma, and cancer using the blood vessel parameter.

14. The image processing apparatus according to claim 13, wherein the determination unit determines the state of the mucous membrane of the observation target to be one of normal, hyperplastic polyp, SSA/P, adenoma, laterally spreading tumor, and cancer using the blood vessel parameter.

15. The image processing apparatus according to claim 10, wherein the determination unit determines a stage of cancer using the blood vessel information or the blood vessel parameter in a case where the state of the mucous membrane of the observation target is cancer.

16. An endoscope system, comprising: an endoscope that images an observation target; and an image processing apparatus having an image acquisition unit that acquires an endoscope image obtained by imaging the observation target with the endoscope, a blood vessel extraction unit that extracts a blood vessel for each depth at a specific depth of the observation target from the endoscope image, a blood vessel information calculation unit that calculates blood vessel information for each depth regarding the blood vessel extracted by the blood vessel extraction unit, and a blood vessel parameter calculation unit that calculates a blood vessel parameter for each depth, which is relevant to the blood vessel at the specific depth, by calculation for each depth using the blood vessel information.

17. An image processing method, comprising: a step in which an image acquisition unit acquires an endoscope image obtained by imaging an observation target with an endoscope; a step in which a blood vessel extraction unit extracts a blood vessel for each depth at a specific depth of the observation target from the endoscope image, a step in which a blood vessel information calculation unit calculates blood vessel information for each depth regarding the blood vessel extracted by the blood vessel extraction unit, and a blood vessel parameter calculation unit that calculates a blood vessel parameter for each depth, which is relevant to the blood vessel at the specific depth, by calculation for each depth using the blood vessel information.
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