



11th AACR-JCA Joint Conference
Breakthroughs in Cancer Research
Feb. 8-12, 2019 | Westin Maui, Maui, HI

AACR American Association
for Cancer Research

JCA 日本癌学会
JAPANESE CANCER ASSOCIATION

Poster Session C

Monday, February 11, 2019

5:30 p.m.-7:30 p.m.

Haleakala Ballroom

Cancer biology

C01 Evaluation of bone marrow mesenchymal stromal cells (BMSC) from Russian healthy donors: Potential of young donor derived BMSC. Nina Gladkova¹, Tomohiro Umezu², Satoshi Imanishi², Chiaki Kawana², Junko H. Ohyashiki², Kazuma Ohyashiki². ¹Kintaro Cells Power Corporation, Tokyo, Japan, ²Tokyo Medical University, Tokyo, Japan.

C02 Environmental pollution-related disease and biomarker development for screening and early diagnosis of asbestos-related mesothelioma. Okio Hino, Yan Yan. Juntendo University School of Medicine, Tokyo, Japan.

C03 The novel p53 family target BRMS1L suppresses cancer cell invasion and migration. Yasushi Sasaki, Ryota Koyama, Miyuki Tamura, Masashi Idogawa, Hiromu Suzuki, Takashi Tokino. Sapporo Medical University, Sapporo, Japan.

C04 Protective role of catechol-O-methyltransferase gene in prostate cancer. Shigekatsu Maekawa¹, Marisa Shiina², Yutaka Hashimoto², Taku Kato³, Ryan K. Wong⁴, Varahram Shahryari⁴, Priyanka Kulkarni², Pritha Dasgupta², Divya Bhagirath², Soichiro Yamamura², Shahana Majid², Sharanjot Saini², Z. Laura Tabatabai², Yukio Homma¹, Rajvir Dahiya², Yuichiro Tanaka². ¹The University of Tokyo, Tokyo, Japan, ²University of California at San Francisco and Veterans Affairs Medical Center, San Francisco, CA, USA, ³Gifu University Graduate school of Medicine, Gifu, Japan, ⁴Veterans Affairs Medical Center, San Francisco, CA, USA.

C05 Target misfolded prion protein in lung cancer. Apar Pataer¹, Bulent Ozpolat¹, Neil R Cashman², Stephen G Swisher¹. ¹University of Texas MD Anderson Cancer Center, Houston, TX, USA, ²University of British Columbia, Vancouver, BC, Canada.

C06 Targeting aryl hydrocarbon receptor (AhR) signaling in castration resistant prostate cancer. Sakura McLaughlin, Tia Jones, Joann B. Powell. Clark Atlanta University, Atlanta, GA, USA.

C07 Identification and functional analysis of FGFR2 binding proteins in scirrhous gastric cancer. Takuya Shirakihara, Ryuichi Sakai. Kitasato University School of Medicine, Sagamihara, Kanagawa, Japan.

C08 Wnt/ β -catenin signaling controls interferon regulatory factor 1 (IRF1) in colorectal cancer cells.

Kiyoshi Yamaguchi, Tomoyuki Ohsugi, Kiyoko Takane, Tsuneo Ikenoue, Yoichi Furukawa. The University of Tokyo, Tokyo, Japan.

C09 Folate-conjugated liposomal carriers enhance the sensitivity to rapamycin in urothelial carcinoma (URCa) cells and orthotopic bladder cancer mouse model.

Young Mi Whang¹, Myeong Joo Kim¹, Jung Ho Ha¹, Gwang Yong Hwang¹, Hoyub Yoon¹, Serk In Park², Young Wook Choi¹, In Ho Chang¹. ¹Chung-Ang University, Seoul, Republic of Korea, ²Korea University College of Medicine, Seoul, Republic of Korea.

C10 Integrative genomic analyses identifies GGA2 as a modifier of EGFR mutant-driven lung tumorigenesis.

Hannah O'Farrell¹, Bryant Harbourne¹, Zimple Kurlawala², Yusuke Inoue¹, Amy Nagelberg¹, Daniel Lu¹, Min Hee Oh¹, Bradley Coe¹, Kelsie Thu¹, Romel Somwar³, Stephen Lam¹, Wan Lam¹, Arun Unni⁴, Levi Beverly², William Lockwood¹. ¹BC Cancer, Vancouver, BC, Canada, ²University of Louisville, Louisville, KY, USA, ³Memorial Sloan-Kettering Cancer Center, New York, NY, USA, ⁴Weill Cornell Medicine, New York, NY, USA.

C11 IFN/STAT signaling controls tumorigenesis of colorectal cancers.

Ryoji Yao¹, Takuya Okamoto¹, Koichi Nagasaki², Tetsuo Noda¹, Satoshi Nagayama³. ¹Cancer Institute, JFCR, Koto-ku, Tokyo, Japan, ²Cancer Institute, JFCR, Koto-ku, Tokyo, Japan, ³Cancer Institute Hospital, JFCR, Koto-ku, Tokyo, Japan.

C12 Establishment of human gastric organoids as a model of early neoplastic stages.

Akiko Kunita, Miyako Fukasawa, Shu Nishida, Hiroyuki Abe, Tetsuo Ushiku, Masashi Fukayama. University of Tokyo, Tokyo, Japan.

C13 Identification of hub-long noncoding RNAs (lncRNAs) by the network analysis of lncRNA

expression in cancers. Masashi Idogawa, Natsumi Suzuki, Yasushi Sasaki, Takashi Tokino. Dept. of Medical Genome Sciences, Inst. of Frontier Medicine, Sapporo Medical University, Sapporo, Japan.

C14 Deletion of regions 3p22 and 3p22.2 is more closely associated with the carcinogenesis of lung

squamous cell carcinoma. Tomoe Lu¹, Shinichi Hirooka¹, Keishiro Murakami¹, Makoto Odaka², Shigeharu Hamatani¹, Masahiro Ikegami¹, Hiroshi Hano¹. ¹Department of Pathology, The Jikei University School of Medicine, Tokyo, Japan, ²Department of Surgery, The Jikei University Hospital, Tokyo, Japan.

C15 Estrogen receptor alpha (ER α) promotes protein synthesis by fine-tuning the expression of the eukaryotic translation initiation factor 3 subunit f (eIF3f).

Rafael Cuesta, Marina K. Holz. New York Medical College, Valhalla, NY, USA.

C16 HER3 signaling in ER+ and HER2+ breast cancers.

Joan T. Garrett, Rosalin Mishra, Samar Alanazi. University of Cincinnati, Cincinnati, OH, USA.

C17 Deletion of sorting nexin 27 suppresses proliferation and migration in highly aggressive breast cancer cells.

Jilei Zhang¹, Kendy Li², Yongguo Zhang¹, Rong Lu¹, Shaoping Wu³, Jingrong Tang⁴, Yinglin Xia¹, Jun Sun¹. ¹University of Illinois at Chicago (UIC), Chicago, IL, USA, ²Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, ³Rush University, Chicago, IL, USA, ⁴NIH, Bethesda, MD, USA.

C18 RNA exosome component EXOSC9 is indispensable for stress resistance in breast cancer.

Seiko Yoshino¹, Yuya Fukui¹, Yusuke Matsui², Motoharu Seiki³, Yoshinori Murakami¹, Jun-ichiro Inoue¹,

Takeharu Sakamoto¹. ¹The University of Tokyo, Tokyo, Japan, ²Nagoya University, Nagoya, Japan, ³Kanazawa University, Kanazawa, Japan.

C19 The significance of FBXW7, mediating cell proliferation and drug resistance in gastrointestinal stromal tumor. Yuki Koga, Masaaki Iwatsuki, Kohei Yamashita, Shiro Iwagami, Kojiro Eto, Takatsugu Ishimoto, Yoshifumi Baba, Naoya Yoshida, Hideo Baba. Kumamoto University, Kumamoto, Japan.

C20 Establishment of patient-derived cells and xenografts of endometrial cancer using a long-term culture based on spheroid formation. Satoshi Inoue¹, Sachiko Shiba², Kazuhiro Ikeda², Kuniko Horie-Inoue². ¹TMIG, Tokyo, Japan, ²Saitama Medical University, Hidaka, Japan.

C21 Maintenance of HSP90A by PRMT5 arginine methylation by NDRG2-deficient ATLL and other cancers. Kazuhiro Morishita¹, Tomonaga Ichikawa¹, Shingo Nakahata¹, Masaya Ono². ¹University of Miyazaki, Miyazaki, Japan, ²National Cancer Center Research Institute, Tokyo, Japan.

C22 Loss of CAP1 impairs adipocyte-induced stimulation of breast cancer cells. Malin Bergqvist¹, Signe Borgquist², Ann H. Rosendahl¹. ¹Lund University and Skåne University Hospital, Department of Clinical Sciences Lund, Division of Oncology and Pathology, Lund, Sweden, ²Aarhus University and Aarhus University Hospital, Departments of Clinical Medicine/Oncology, Aarhus, Denmark.

C23 Obese breast adipose tissue contributes to DNA damage in breast epithelial cells of BRCA mutation carriers. Priya Bhardwaj¹, Neil M. Iyengar², Sofya Oshchepkova¹, Rohan Bareja¹, Andrew J. Dannenberg¹, Olivier Elemento¹, Monica Morrow², Jason A. Spector¹, Kristy A. Brown¹. ¹Weill Cornell Medicine, New York, NY, USA, ²Memorial Sloan Kettering Cancer Center, New York, NY, USA.

C24 Loss of the transcriptional repressor TGIF1 results in enhanced Kras-driven development of pancreatic cancer. Ching-Chieh Weng, Chia-Chen Wu, Yu-Chun Lin, Kuang-hung Cheng. National Sun Yat-sen University, Kaohsiung, Taiwan.

C25 Overcoming the Limitations of Endocrine Therapy for Ovarian Cancer. Irene Lee, Myles Brown. Dana-Farber Cancer Institute, Boston, MA, USA.

C26 Long noncoding RNA regulates cancer stem cells in colorectal cancer. Masahisa Ohtsuka¹, Naotsugu Haraguchi², Norikatsu Miyoshi², Hidekazu Takahashi², Taishi Hata², Chu Matsuda², Masahiro Tanemura¹, Hiroki Akamatsu¹, Tsunekazu Mizushima², Yuichiro Doki², Masaki Mori², Hirofumi Yamamoto³. ¹Osaka Police Hospital, Department of Surgery, Osaka, Japan, ²Osaka University, Department of Gastroenterological Surgery, Osaka, Japan, ³Osaka University, Department of Molecular Pathology, Osaka, Japan.

C27 Understanding pancreatic cancer metastasis driven by loss of SMAD4. Yue Huang¹, Guangwu Guo², Andrew Aguirre³, Belinda Wang³, Scott Younger², John Doeck², William Hahn³, Chao Dai³. ¹Boston Children's Hospital, Boston, MA, US, ²Broad Institute of Harvard and MIT, Boston, MA, US, ³Dana-Farber Cancer Institute, Boston, MA, US.

C28 Identity fraud: Lineage plasticity as a mechanism of antiandrogen resistance and target for therapy. Alastair Davies¹, Daksh Thaper¹, Shaghayegh Nouruzi¹, Soojin Kim¹, Sahil Kumar¹, Chiara Bostock¹, Loredana Puca², Jennifer Bishop¹, Ladan Fazli¹, Haojie Huang³, David Goodrich⁴, Hansen He⁵, Faraz Hach¹, Himisha Beltran², Amina Zoubeidi¹. ¹Vancouver Prostate Centre, Vancouver, BC, Canada, ²Weill Cornell

Medicine, New York, NY, USA, ³Mayo Clinic Cancer Center, Rochester, MN, USA, ⁴Roswell Park Cancer Institute, Buffalo, NY, USA, ⁵Princess Margaret Cancer Centre, Toronto, ON, Canada.

C29 BET inhibitor sensitivity is mediated by DR5 induction and SPOP mutations in colorectal cancer.

Xiao Tan¹, Jingshan Tong², Yi-Jun Wang², Rochelle Fletcher², Robert E Schoen², Jian Yu², Liangfang Shen¹, Lin Zhang². ¹Central South University, Changsha, Hunan, China, ²UPMC Hillman Cancer Center, Pittsburgh, PA, USA.

C30 PADI2 suppresses proliferation of colon cancer cells through protein citrullination. Keiiko

Nakayama, Ryo Funayama, Hajime Taniguchi. Tohoku University, Sendai, Japan.

C31 Antioxidant activity and cytotoxicity evaluation of guava leaves plant extracts on breast/lung /prostate cancer cell lines. Heba Alhamdi¹,

William Boadi¹, Venkataswarup Tiriveedhi¹, Nicole Driggins², E. Lewis Myles¹. ¹Tennessee State University, Nashville, TN, USA, ²Allen University, Columbia, SC, USA.

C32 Ezh2 inhibition in Kras-driven lung cancer amplifies inflammation and associated vulnerabilities.

Gaetano Gargiulo, Michela Serresi. Max-Delbrück-Center for Molecular Medicine (MDC), Berlin, Germany.

C33 Functional analysis of the PALB2 tumor suppressor. Amélie Rodrigue¹, Timothy Wiltshire²,

Guillaume Margaillan³, Giuliana De-Gregoriis⁴, Yan Coulombe¹, Mandy Ducy¹, Thiago Torres Gomes⁴, Simone Carvalho¹, Penny Soucy³, Graham Dellaire⁵, Marcelo Alex Carvalho⁴, Alvaro Monteiro⁶, Fergus Couch², Jacques Simard³, Jean-Yves Masson¹. ¹Genome Stability Laboratory, CHU de Québec-Université Laval Research Center, Quebec, Canada, ²Mayo Clinic, Rochester, MN, USA, ³Genomics Centre, CHU de Québec-Université Laval Research Center, Quebec, Canada, ⁴Instituto Nacional de Câncer, Rio de Janeiro, Brazil, ⁵Dalhousie University, New Brunswick, Canada, ⁶H. Lee Moffitt Cancer Center, Tampa, FL, USA.

C34 Identifying Nrf2 inhibitors through a high throughput screen. Di Zhang,

Corbin Livingston, Thomas Dexheimer, Edmund Ellsworth, Aaron Odom, Karen Liby. Michigan State University, East Lansing, MI, USA.

C35 Establishment of a new scirrhous gastric cancer cell line with FGFR2 overexpression, OCUM-14.

Tomohisa Okuno¹, Masakazu Yashiro¹, Go Masuda¹, Shuhei Kushiya¹, Sadaaki Nishimura¹, Shingo Togano¹, Kenji Kuroda¹, Yuichiro Miki¹, Kosei Hirakawa¹, Masahiko Ousawa², Hideki Wanibuchi³, Masaichi Ohira¹. ¹Department of Gastroenterological Surgery, Osaka City University Graduate School of Medicine, Osaka, Japan, ²Department of Diagnostic Pathology, Osaka City University Graduate School of Medicine, Osaka, Japan, ³Molecular Pathology, Osaka City University Graduate School of Medicine, Osaka, Japan.

C36 Expanding the liver small-RNA transcriptome: Discovery of novel and oncofetal sncRNAs relevant to hepatocellular carcinoma. Brenda C. Minatel,

Adam P. Sage, Erin A. Marshall, Victor D. Martinez, Wan L. Lam. BC Cancer Research Centre, Vancouver, BC, Canada.

C37 Novel microRNAs as mediators of CRL2^{pVHL} complex disruptions in liver cancer and their relevance to patient outcome. Brenda C. Minatel,

Adam P. Sage, Mateus Barros-Filho, Michelle E. Pewarchuk, Erin A. Marshall, Victor D. Martinez, Wan L. Lam. BC Cancer Research Centre, Vancouver, BC, Canada.

C39 miR-221 enhances functional behaviors of cancer stem cells in human colorectal cancers. Piero

Dalerba¹, Yoshihiro Kakeji², Akira Suzuki², Junko Mukohyama¹, Yohei Shimono³, Taichi Isobe⁴, Qingjiang Hu⁵, Debashis Sahoo⁶, Hironobu Minami², Koshi Mimori⁷. ¹Columbia University, New York, USA, ²Kobe University,

Kobe, Japan, ³Fujita Health University, Aichi, Japan, ⁴Stanford University, Stanford, CA, USA, ⁵Kyushu University Hospital, Fukuoka, Japan, ⁶University of California San Diego, San Diego, CA, USA, ⁷Kyushu University Beppu Hospital, Beppu, Japan.

C40 CRISPR-Cas9 screening in organoids identified *Acvr2a*, *Acvr1b* and *Arid2* as colorectal tumor suppressor genes. Haruna Takeda, Shiho Kataoka, Mizuho Nakayama, Hiroko Oshima, Daisuke Yamamoto, Masanobu Oshima. Kanazawa University, Kanazawa, Japan.

C41 Ethanolamine kinase 2 and hepatic metastasis formation of gastric cancer. Takashi Miwa, Mitsuro Kanda, Shinichi Umeda, Haruyoshi Tanaka, Fuminori Sonohara, Hideki Takami, Masaya Suenaga, Norifumi Hattori, Masamichi Hayashi, Daisuke Kobayashi, Chie Tanaka, Suguru Yamada, Goro Nakayama, Masahiko Koike, Michitaka Fujiwara, Yasuhiro Koderu. Department of Gastroenterological Surgery (Surgery II), Nagoya University Graduate School of Medicine, Nagoya, Japan.

C42 IL-13 plays an important role in the carcinogenesis of obesity-related colorectal cancer in mice. Shimpei Matsui¹, Koji Okabayashi², Masashi Tsuruta², Kohei Shigeta², Takashi Ishida², Takayuki Kondo², Yoshiyuki Suzuki², Masayuki Shimoda³, Shinya Sugimoto⁴, Toshiro Sato⁴, Hiroto Hasegawa⁵, Yuko Kitagawa². ¹Department of Gastroenterological Surgery, Cancer Institute Hospital, Japanese Foundation for Cancer Research, Tokyo, Japan, ²Department of Surgery, Keio University School of Medicine, Tokyo, Japan, ³Department of Pathology, Keio University School of Medicine, Tokyo, Japan, ⁴Department of Gastroenterology, Keio University School of Medicine, Tokyo, Japan, ⁵Department of Surgery, Tokyo Dental College Ichikawa General Hospital, Chiba, Japan.

C43 Roles of N- α -acetyltransferase 10 (*Naa10*) 235 in cell proliferation and tumor development. Mi-Ni Lee, Hyeon Yon Kweon, Goo Taeg Oh. Immune and Vascular Cell Network Research Center, National Creative Initiatives, Department of Life Sciences, Ewha Womans University, Seoul, Republic of Korea.

C44 Tyrosine kinase receptor EphA6 sensitizes glioblastoma cells towards BMP-induced apoptosis. Erna Raja, Masato Morikawa, Ryo Tanabe, Yasushi Ino, Nobuhito Saito, Tomoki Todo, Kohei Miyazono. The University of Tokyo, Tokyo, Japan.

C45 Palbociclib enhances activin-SMAD-induced cytostasis in estrogen receptor-positive breast cancer. Takayuki Ozawa¹, Masumi Harada², Masato Morikawa¹, Mai Kobayashi¹, Yusuke Tamura¹, Kei Takahashi¹, Masahiko Tanabe³, Keiichi Tada⁴, Yasuyuki Seto⁵, Kohei Miyazono¹, Daizo Koinuma¹. ¹Department of Molecular Pathology, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan, ²Department of Breast and Endocrine Surgery and Department of Molecular Pathology, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan, ³Department of Breast and Endocrine Surgery, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan, ⁴Department of Breast Surgery, Center Hospital of the National Center for Global Health and Medicine, Shinjuku-ku, Tokyo, Japan, ⁵Department of Gastrointestinal Surgery, Graduate School of Medicine, The University of Tokyo, Bunkyo-ku, Tokyo, Japan.

C46 Expression of SMOC2 and its prognostic significance in colorectal cancers. Bogun Chang, Hyesung Kim. Jeju National University, Jeju, South Korea.

C47 Computer-aided image analysis enables the detection of large oncosome biogenesis associated with nuclear membrane instability in prostate cancer and reveals its clinical significance in prostate cancer progression. Tatiana Novitskaya¹, Mariana Reis-Sobroeiro², Michael Freeman², Dolores Di Vizio², Andries Zijlstra¹. ¹Vanderbilt University Medical Center, Nashville, TN, USA, ²Cedars-Sinai Medical Center, Los Angeles, CA, USA.

C48 JUNB governs a feed-forward network of TGF-beta signaling that aggravates breast cancer invasion. Masato Morikawa¹, Anders Sundqvist², Jiang Ren³, Eleftheria Vasilaki², Natsumi Kawasaki¹, Mai Kobayashi¹, Daizo Koinuma¹, Hiroyuki Aburatani¹, Kohei Miyazono¹, Carl-Henrik Heldin², Hans van Dam³, Peter ten Dijke³. ¹The University of Tokyo, Tokyo, Japan, ²Uppsala University, Uppsala, Sweden, ³Leiden University Medical Center, Leiden, The Netherlands.

C49 Clinical validation of the role of the short progesterone receptor isoform in hormone-regulated metastasis of luminal breast cancer. Kailey Oppat, Rayna Rosati, Manohar Ratnam. Department of Oncology, Wayne State University School of Medicine and Barbara Ann Karmanos Cancer Institute, Detroit, MI, USA.

C50 Molecular mechanisms of therapeutic demethylation effects in HPV-associated head and neck cancer. Natalia Issaeva¹, Asel Biktasova², Michael Hajek³, Andrew Sewell⁴, Cyril Gary⁵, Wendell G. Yarbrough¹. ¹UNC, Chapel Hill, NC, USA, ²Children's Cancer Institute, Sydney, Australia, ³Yale, New Haven, CT, USA, ⁴University of Toronto, Toronto, ON, Canada, ⁵Georgetown University, Washington, D.C., USA.

C51 Comprehensive genome-wide gene expression profiling reveals novel signatures of peritoneal metastasis in human scirrhous gastric cancer. Toshifumi Hara¹, Kazuyoshi Yanagihara², Yoshifumi Takei¹. ¹Aichi Gakuin University, Nagoya, Aichi, Japan, ²National Cancer Center, Kashiwa, Chiba, Japan.

C52 Identifying the target sites of interactions ELK1 and its antagonist in the androgen receptor. Claire Soave, Rayna Rosati, Yanfang Huang, Manohar Ratnam. Wayne State University/Barbara Ann Karmanos Cancer Institute, Detroit, MI, USA.

C53 The CRISPR-Cas9-mediated gene knockout system to identify tumor suppressor genes in basal-like breast cancer mouse model. Chiho Abe, Mizuki Yamamoto, Jun-ichiro Inoue. Div. Cell. Mol. Bio., Inst. Med. Sci., Univ. Tokyo, Minatoku, Tokyo, Japan.

C55 Therapeutic strategies for chemoresistant stem-like osteosarcoma cells by inducing terminal adipocyte differentiation based on actin dynamics. Hiroyuki Nobusue¹, Nobuhiro Takahashi¹, Takatsune Shimizu², Eiji Sugihara³, Nobuyuki Onishi¹, Sayaka Yamaguchi-Iwai¹, Haruko Kunitomi¹, Tatsuo Kuroda⁴, Hideyuki Saya¹. ¹Division of Gene Regulation, Institute for Advanced Medical Research, Keio University School of Medicine, Tokyo, Japan, ²Department of Pathophysiology, School of Pharmacy and Pharmaceutical Sciences, Hoshi University, Tokyo, Japan, ³Research and Development Center for Precision Medicine, University of Tsukuba, Ibaraki, Japan, ⁴Department of Pediatric Surgery, Keio University School of Medicine, Tokyo, Japan.

C56 The roles of p120 catenin family protein as a novel p53 target in cancer. Natsumi Suzuki, Masashi Idogawa, Yasushi Sasaki, Takashi Tokino. Department of Medical Genome Sciences, Research Institute for Frontier Medicine, Sapporo Medical University, Sapporo, Japan.

C57 MCM10 maintains breast cancer stem-like cells through contributing to rapid response to DNA replication stress. Takahiko Murayama¹, Toyoaki Natsume², Tatsunori Nishimura³, Masao Yano⁴, Masahiko Tanabe⁵, Kei-ichiro Tada⁵, Masato T Kanemaki², Arinobu Tojo¹, Noriko Gotoh³. ¹Institute of Medical Science, University of Tokyo, Tokyo, Japan, ²National Institute of Genetics, Mishima, Japan, ³Cancer Research Institute, Kanazawa University, Kanazawa, Japan, ⁴Minamimachida Hospital, Tokyo, Japan, ⁵University of Tokyo, Tokyo, Japan.

Engineering and nanotechnology

C58 Self-assembling nanotechnology for cancer theranostics: From in silico to in vivo applications. Erik Laurini, Domenico Marson, Suzana Aulic, Maurizio Fermeglia, Sabrina Pricl. MoIBNL@UniTS-DEA University of Trieste, Trieste, Italy.

C60 Rapid induction method of cancer stem cells by double-network hydrogel. Jun Suzuka¹, Masumi Tsuda¹, Lei Wang¹, Shingo Semba¹, Sachiyo Aburatani², Takayuki Kurokawa³, Yoshihiro Ohmiya⁴, Kazunori Yasuda⁵, Jian Ping Gong³, Shinya Tanaka¹. ¹Department of Cancer Pathology, Faculty of Medicine, Hokkaido University, Sapporo, Japan, ²Computational Bio Big-Data Open Innovation Laboratory, National Institute of Advanced Industrial Science and Technology, Tokyo, Japan, ³Laboratory of Soft and Wet Matter, Faculty of Advanced Life Science, Hokkaido University, Sapporo, Japan, ⁴Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology, Tokyo, Japan, ⁵Global Station for Soft Matter, Global Institution for Collaborative Research and Education, Hokkaido University, Sapporo, Japan.

C61 X-ray induced photodynamic therapy of cancer cells with molybdenum cluster nanoparticles. Jaroslav Zelenka¹, Kaplan Kirakci², Kamil Lang², Tomáš Ruml¹. ¹University of Chemistry and Technology Prague, Department of Biochemistry and Microbiology, Prague, Czech Republic, ²Czech Academy of Sciences, Institute of Inorganic Chemistry, Řež, Czech Republic.

C62 Peptide labeled gold liposomal nanoparticles for drug delivery into the brain. Gabriel Martínez-Zayas¹, Nilmary Grafals-Ruiz², Blanca Quiñones-Díaz³, Ricardo Noriega³, Eunice Lozada⁴, Yasmarie Santana², Gabriel L. Barletta-Bonano⁵, Pablo E. Vivas-Mejía³. ¹University of Puerto Rico Rio Piedras Campus, Department of Chemistry; University of Puerto Rico, Comprehensive Cancer Center, San Juan, Puerto Rico, ²University of Puerto Rico, Medical Sciences Campus, Department of Physiology and Biophysics; University of Puerto Rico, Comprehensive Cancer Center, San Juan, Puerto Rico, ³University of Puerto Rico, Medical Sciences Campus, Department of Biochemistry; University of Puerto Rico, Comprehensive Cancer Center, San Juan, Puerto Rico, ⁴University of Puerto Rico Rio Piedras Campus, Department of Biology; University of Puerto Rico, Comprehensive Cancer Center, San Juan, Puerto Rico, ⁵University of Puerto Rico, Humacao Campus, Humacao, Puerto Rico.

Imaging

C65 Preoperative diagnosis of axillary lymph node metastases for breast cancer by FDG PET/CT in combination with OSNA method. Kimito Yamada¹, Keigo Amaya¹, Tatsuhiro Pak¹, Masako Kawasaki¹, Hirotsugu Hirano¹, Midori Wakiya¹, Kei Itoh¹, Takahiko Kawate², Kana Miyahara², Ai Ueda², Saeko Teraoka², Miki Okazaki², Saori Kawai², Natsuki Uenaka², Kyouko Orimoto², Mio Tanaka², Youichi Koyama¹, Youko Go², Hiroshi Kaise², Mitsuhiro Hayashi¹, Takashi Ishikawa². ¹Tokyo Medical University Hachioji Medical Center, Tokyo, Japan, ²Tokyo Medical University Hospital, Tokyo, Japan.

C66 Single-molecule fluorescence microscopy illuminates structure-function relationships in insulin receptor. Harini Krishnan¹, M. Zulema Cabail¹, Frank Mindlin¹, Richard Delle Bovi¹, Stevan R. Hubbard², Mark E. Bowen¹, W. Todd Miller¹. ¹Stony Brook University, Stony Brook, NY, USA, ²New York University School of Medicine, New York, NY, USA.

C67 Fluorescence-based discrimination of breast cancer cells by direct exposure to 5-aminolevulinic acid. Midori Morita, Hideo Tanaka, Yasuaki Kumamoto, Akihiro Nakamura, Yoshinori Harada, Takehiro

Ogata, Koichi Sakaguchi, Tetsuya Taguchi, Tetsuro Takamatsu. Kyoto Prefectural University of Medicine, Kyoto, Japan.

C68 [¹⁸F]FDG uptake of cancer cells is increased by anti PD-1 treatment in a mouse B16F10 melanoma model. Mayu Tomita, Hironobu Yasui, Kei Higashikawa, Kohei Nakajima, Hideo Takakura, Tohru Shiga, Yuji Kuge, Mikako Ogawa. Hokkaido University, Sapporo, Hokkaido, Japan.

Liquid biopsy

C69 A sensitive diagnostic method to detect aberrant DNA methylation in cfDNA of pancreas cancer patients. Keiko Shinjo¹, Keisuke Katsushima¹, Genta Nagae², Hiroyuki Aburatani², Kenji Yamao³, Yutaka Kondo¹. ¹Nagoya University Graduate School of Medicine, Nagoya, Japan, ²Tokyo University Research Center for Advanced Science and Technology, Tokyo, Japan, ³Aichi Cancer Center Hospital, Nagoya, Japan.

C70 Proteome of extracellular vesicles emitted by ErbB2/Her2-positive breast cancer cells signifies their trastuzumab sensitivity. Byong H. Yoo¹, Dongsic Choi², Laura Montermeni², Janusz Rak², Kirill V. Rosen¹. ¹Dalhousie University, Halifax, NS, Canada, ²McGill University, Montreal, QC, Canada.

C71 Development of a liquid-biopsy-based technique for the supplementary diagnosis of highly advanced lymph node metastasis in patients with locally advanced gastric cancer. Takashi Oshima¹, Yohei Miyagi², Naohide Oue³, Itaru Hashimoto⁴, Takeharu Imai⁵, Yosuke Atsumi⁶, Takaki Yoshikawa⁷, Toru Aoyama⁸, Yasushi Rino⁸, Munetaka Masuda⁸, Wataru Yasui³, Yayoi Kimura⁹. ¹Department of Gastrointestinal Surgery, Kanagawa Cancer Center, Yokohama, Japan, ²Kanagawa Cancer Center Research Institute, Yokohama, Japan, ³Department of Molecular Pathology, Hiroshima University, Hiroshima, Japan, ⁴Department of Genomic Pathology, Medical Research Institute, Tokyo Medical and Dental University, Tokyo, Japan, ⁵Department of Surgical Oncology, Gifu University, Gifu, Japan, ⁶Gastroenterological Center, Yokohama City University Medical Center, Yokohama, Japan, ⁷Department of Gastric Surgery, National Cancer Center, Tokyo, Japan, ⁸Department of Surgery, Yokohama City University, Yokohama, Japan, ⁹Advanced Medical Research Center, Yokohama City University, Yokohama, Japan.

C72 Clinical relevance of circulating tumor DNA assessed through amplicon-based next-generation sequencing. Hltoshi Zembutsu¹, Hiroki Osumi², Eiji Shinozaki², Kensei Yamaguchi², Masato Ozaka², Takashi Sasaki², Naoki Sasahira². ¹Cancer Institute, JFCR, Tokyo, Japan, ²Cancer Institute, Ariake, Tokyo, Japan.

C73 Detection of circulating tumor cells (CTCs) with polymeric CTC-chip or LiquidBiopsy™ system in primary lung cancer. Kazue Yoneda¹, Taiji Kuwata¹, Masataka Mori¹, Masatoshi Kanayama¹, Katsuma Yoshimatsu¹, Yusuke Takeda¹, Kasumi Kusanagi¹, Teruaki Ishida¹, Hiroki Matsumiya¹, Yusuke Nabe¹, Akihiro Taira¹, Shinji Shinohara¹, Ayako Hirai¹, Yuko Tashima¹, Naoko Imanishi¹, Koji Kuroda¹, Yoshinobu Ichiki¹, Takashi Ohnaga², Fumihiro Tanaka¹. ¹University of Occupational and Environmental Health, Kitakyushu, Japan, ²Toyama Industrial Technology Center, Takaoka, Japan.

C74 Development of a specificity-enhanced secondary biomarker for prostate cancer: PSA G-Index. Yoshimi Haga¹, Motohide Uemura², Satoko Baba¹, Kentaro Inamura¹, Kengo Takeuchi¹, Norio Nonomura², Koji Ueda¹. ¹Japanese Foundation for Cancer Research, Tokyo, Japan, ²Osaka University Graduate School of Medicine, Osaka, Japan.

C75 Gastric cancer cell-derived exosomes deliver antiapoptotic signals to tumor microenvironment.

Naomi Ohnishi¹, Naomi Saichi¹, Risa Fujii¹, Koji Ueda¹, Kentaro Murakami², Hisahiro Matsubara². ¹Japanese Foundation for Cancer Research, Tokyo, Japan, ²Chiba University, Chiba, Japan.

C76 Expression levels of the estrogen receptor- α (ESR1) and human epidermal growth factor receptor 2 (HER2) in circulating tumor RNA (ctRNA) in various subtypes of breast cancers. Toshiyuki Ishiba¹, Tomoyuki Aruga¹, Chiaki Saida¹, Mai Ohnishi¹, Risa Goto¹, Naoko Iwamoto¹, Yayoi Honda¹, Hiromi Miyamoto¹, Joshua Usher¹, Yolanda Jaimes², Eric Huang², Kathleen Danenberg², Shahrooz Rabizadeh², Goshi Oda³, Tsuyoshi Nakagawa³, Yoshio Miki³, Peter Danenberg⁴, Hiroyuki Uetake³. ¹Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital, Tokyo, Japan, ²Nanthealth, Los Angeles, CA, USA, ³Tokyo Medical and Dental University, Tokyo, Japan, ⁴University of California Los Angeles, Los Angeles, CA, USA.

C77 Identification of the novel protein markers for hepatocellular carcinoma-derived exosome. Hyo Jung Cho¹, Jungwoo Eun¹, Soon Sun Kim¹, Jae Youn Cheong¹, Minsu Kwon², Jin Young Nam¹. ¹Ajou university school of medicine, Suwon, Republic of Korea, ²Eulji University School of Medicine, Seoul, Republic of Korea.

C78 Clinical significance of ESR1 gene mutation cfDNA analysis for hormone receptor-positive metastatic breast cancer. Tomoko Shibayama¹, Takayuki Kobayashi¹, Shinji Ohno¹, Yoshinori Ito¹, Takayuki Ueno¹, Makiko Ono², Shunji Takahashi², Siew-Kee Low³. ¹Breast Oncology Center, Cancer Institute Hospital, Japanese Foundation for Cancer, Tokyo, Japan, ²Department of Medical Oncology, Cancer Institute Hospital, Japanese Foundation for Cancer Research, Tokyo, Japan, ³Cancer Precision Medicine Center, Japanese Foundation for Cancer Research, Tokyo, Japan.

C79 Method for highly purified extracellular vesicles recovery using immunoaffinity purification from serum, plasma, and urine. Tatsutoshi Inuzuka, Ayako Kurimoto, Yuki Kawasaki. Miraca Research Institute G.K., Tokyo, Japan.

C80 A simple blood-based serologic assay for early detection of multiple cancers. Yisrael Katz¹, Jian Zhang², Luhui Shen², Phillip Stafford², Stephen A. Johnston¹. ¹ASU Biodesign Institute; Calviri Inc, Tempe, AZ, USA, ²ASU Biodesign Institute, Tempe, AZ, USA.

C81 Circulating small noncoding RNAs as biomarker promising for early detection of pancreatic cancer. Yukie Nishiyama¹, Yu Sakuma¹, Toshio Kokuryo², Kazuaki Chayama¹, Tomoyuki Akita¹, Junko Tanaka¹, Toshihiko Masui³, Takayuki Anazawa³, Kazuyuki Nagai³, Mitsuhiro Koizumi⁴, Yoichi Hiasa⁴, Hidetoshi Tahara¹. ¹Hiroshima University, Hiroshima, Hiroshima, Japan, ²Nagoya University, Nagoya, Nagoya, Japan, ³Kyoto University, Kyoto, Kyoto, Japan, ⁴Ehime University, Ehime, Ehime, Japan.

Microbiome

C82 Microbiome *Fusobacterium nucleatum* has an effect on chemotherapeutic response in esophageal squamous cell carcinoma. Yoshifumi Baba, Liu Yang, Kojiro Eto, Yukiharu Hiyoshi, Takatsugu Ishimoto, Masaaki Iwatsuki, Shiro Iwagami, Yuji Miyamoto, Naoya Yoshida, Hideo Baba. Kumamoto University, Kumamoto, Japan.

C83 The microbiome of cervical squamous cell and endocervical carcinoma and head and neck squamous cell carcinoma tumor microenvironments. Rebecca M. Rodriguez¹, Vedbar S. Khadka², Mark

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Cancer Biology

C84 Analyzing the physical and functional protein interaction landscape of breast cancer. Kyumin Kim, Beril Tutuncuoglu, Magaret Soucheray, Patrick O'Leary, Alan Ashworth, Nevan Krogan, Minkyu Kim. University of California San Francisco, San Francisco, CA, USA.