

# Day 1

September 21 (Thursday)

Room 1 Sep. 21 (Thu.) 9:00-11:30

E

AACR1

**Clonal Hematopoiesis: A paradigm shift in the development of blood and solid cancers**

クローン性造血をもたらす血液がん・固形がん発症のパラダイムシフト

Chairpersons: Mamiko Sakata-Yanagimoto (Univ. of Tsukuba)  
Ravi Majeti (Stanford Univ.)

座長：坂田（柳元） 麻実子（筑波大）  
Ravi Majeti (Stanford Univ.)

The discovery of clonal hematopoiesis (CH) has innovated the novel scientific world in both blood and solid cancers. CH is a state in which hematopoietic stem cells acquire somatic mutations in genes involved in epigenetic pathways, splicing machineries, DNA repair, and as so forth during aging. CH serves as a predisposing state for various age-related diseases, including lifestyle diseases and cancers. Remarkably, in patients of solid and blood cancers harboring CH, the immune cells derived from CH are infiltrated into cancer tissues and serve as a niche to support cancer cells. Furthermore, CH is important in cancer management: Eventual detection of CH by panel sequencing, especially liquid biopsies may influence the choice of treatment options. CH affects side effects of immune therapies and cytotoxic drugs in cancer therapies. Paradoxically, cancer therapies shape the mutational profiles of CH, and induce secondary blood cancers originated from CH. In this symposium, we will focus on the recent progress in the roles of CH in cancer development and management, targeting both blood and solid cancers. The deeper insight into CH will lead to the better managements of cancers.

**AACR1-1 Pre-Leukemic Hematopoietic Stem Cells in Human AML**  
Ravi Majeti (Stanford University)

**AACR1-2 Relationship between clonal hematopoiesis and cancer revealed by analysis of large-scale cohorts**

Ryunosuke Saiki (Pathology and Tumor Biology, Kyoto University)  
大規模コホートの解析から明らかになった、クローン性造血とがんの関わり  
佐伯 龍之介（京都大学 医学研究科 腫瘍生物学講座）

**AACR1-3 Clonal Hematopoiesis**  
Lucy A. Godley (Division of Hematology/Oncology, Robert H. Lurie Cancer Center, Northwestern Univ)

**AACR1-4 Immune cells derived from clonal hematopoiesis affect cancer progression**  
Mamiko Sakata-Yanagimoto (Dept. Hematol., Univ. Tsukuba)  
クローン性造血に由来する免疫細胞によるがん進展への影響  
坂田（柳元） 麻実子（筑波大・医・血液内科）

Room 2 Sep. 21 (Thu.) 9:00-11:30

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S1

**AI opens up a new era of cancer research**

AIが切り拓くがん研究の新時代

Chairpersons: Ryuji Hamamoto (Div. Med. AI Res. & Development, Natl. Cancer Ctr. Res. Inst.)  
Shunpei Ishikawa (Dept. Preventive Med., Grad. Sch. of Med., The Univ. of Tokyo)

座長：浜本 隆二（国立がん研セ・研・医療 AI 研究開発分野）  
石川 俊平（東京大・院医・衛生学分野）

Expectations for artificial intelligence (AI) are rising with rapid advances in machine learning technology, particularly deep learning. AI is currently being introduced in various areas of society, and the medical field is no exception, with AI-based medical devices already in use not only at the research level but also in clinical practice. In cancer research, AI is beginning to be actively utilized in a wide range of fields, including analysis of medical images such as endoscopic images, pathological images, and radiological images, omics analysis, and drug discovery. In particular, recent cancer research requires analysis of large-scale data such as whole genome data and multimodal analysis of data from various modalities, and AI-based cancer research is expected to become increasingly important in the future. Therefore, this symposium will be held to present the latest results of AI-based cancer research and to help participants understand the current status of AI-based cancer research.

**S1-1 Cancer research using data-driven AI for clinical applications**

Ryuji Hamamoto<sup>1,2</sup> (<sup>1</sup>Div. Medical AI Res. Dev., Natl. Cancer Ctr. Res. Inst., <sup>2</sup>Cancer Transl. Res. Team, RIKEN Ctr. for AIP project)

臨床応用を目的としたデータ駆動型 AI を活用したがん研究  
浜本 隆二<sup>1,2</sup> (<sup>1</sup>国立がん研究セ・研・医療 AI 研究開発、<sup>2</sup>理研・革新知能統合研究セ・がん探索医療)

**S1-2 Introduction of AI into the field of oncologic pathology**

Ishikawa Shunpei<sup>1,2</sup> (<sup>1</sup>Department of Preventive Medicine, The University of Tokyo, <sup>2</sup>Division of Pathology, EPOC, National Cancer Center)

腫瘍病理学分野への AI 導入  
石川 俊平<sup>1,2</sup> (<sup>1</sup>東京大学 大学院医学系研究科 衛生学教室、<sup>2</sup>国立がん研究センター EPOC 臨床腫瘍病理)

**S1-3 Surgical AI to enhance the safety and efficiency of laparoscopic surgery**

Nobuyoshi Takeshita, Daichi Kitaguchi, Hiro Hasegawa, Shin Takenaka, Yuta Suzuki, Norihito Kosugi, Yuki Furusawa, Kazuyuki Hayashi, Yumi Kinebuchi, Masaaki Ito (Dept. Promotion of Medical Device Innovation, NCCHE.)

手術の均てん化・効率化をもたらす AI 支援システムの開発  
竹下 修由、北口 大地、長谷川 寛、竹中 慎、鈴木 悠太、小杉 範仁、古澤 悠貴、林 一幸、杵淵 裕美、伊藤 雅昭（国がん東・医療機器開発推進部門）

**S1-4 Toward personalized cancer treatment through AI drug discovery**

Hideyuki Shimizu (AI Systems Medicine, M&D Data Science Center, TMDU)

AI 創薬によるがんの個別化医療を目指して  
清水 秀幸（医科歯科大・データ科学・AI システム医科学）

**S1-5 Glycosylation-assisting cancer clinics: an integrative omics and explainable machine learning perspective**

Yen H. Chen, Yuh S. Jou (Institute of Biomedical Sciences, Academia Sinica)

Room 3 Sep. 21 (Thu.) 9:00-11:30

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SST1

## Cutting edge of pediatric cancer research

小児がん研究最前線

Chairpersons: Junko Takita (Dept. Pediatrics, Grad. Sch. of Med., Kyoto Univ.)  
Motohiro Kato (Dept. Pediatrics, the Univ. of Tokyo)座長：滝田 順子 (京大・院医・小児科)  
加藤 元博 (京大・院医・小児科)

Recent advances in treatment strategies have enabled many patients with pediatric cancers to overcome their disease. However, there are still issues to be resolved, such as intractable disease and late complications in patients who are successfully cured. In order to explore the genetic and epigenetic basis of pediatric cancers and to develop more specific and successful treatment strategies, many researchers have conducted extensive studies on the molecular mechanisms of intractable pediatric malignancies, including leukemia, brain tumors, and neuroblastoma. Throughout these translational researches in pediatric cancers have led to a better understanding of the molecular pathogenesis of the disease and the development of new diagnostic methods and treatment strategies. In this symposium, cutting-age researches in the field of pediatric cancers will present the latest advances in basic and clinical research directly related to the new therapeutic strategies of pediatric cancers.

## SST1-1 Precision Medicine in Childhood Cancer: Updates from NCI-COG Pediatric MATCH

Nita Seibel (National Cancer Institute, National Institutes of Health)

## SST1-2 Germline mosaicism as the origin of Langerhans cell histiocytosis

Nao Takasugi, Motohiro Kato (Department of Pediatrics, The University of Tokyo)

ランゲルハンス細胞症の起源となる生殖細胞系列モザイク変異  
高杉 奈緒、加藤 元博 (東京大学医学部小児科)

## SST1-3 Multi-omics analysis reveals the genetic and epigenetic features of high-risk chronic active EBV infection-NK type.

Ryo Akazawa, Junko Takita (Pediatr., Kyoto Univ., Kyoto, Japan)

マルチオミクス解析によるNK細胞に感染した慢性活動性EBV感染症における予後不良群のゲノム・エピゲノム的特徴の同定  
赤澤 嶺、滝田 順子 (京都大学大学院 発達小児科学)

## SST1-4 Memory-rich CAR-T cell engineering by piggyBac transposon system for pediatric solid tumor

Shigeki Yagyu<sup>1,2</sup> (Shinshu University, Kyoto Pref Univ Med)小児固形腫瘍に対するピギーバックトランスポゾンCAR-T細胞療法の開発  
柳生 茂希<sup>1,2</sup> (1信州大学、2京都府立医科大学)

## SST1-5 Genome-wide association study of intracranial germ cell tumors

Keita Terashima (Children's Cancer Center, National Center for Child Health and Development)

頭蓋内胚細胞腫瘍のゲノムワイド関連研究

寺島 慶太 (国立成育医療研究センター・小児がん)

## SST1-6 Recent advances in neuroblastoma immunotherapy

Kristopher R. Bosse<sup>1,2</sup> (1Children's Hospital of Philadelphia, 2Perelman School of Medicine at the University of Pennsylvania)

Room 4 Sep. 21 (Thu.) 9:00-11:30

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S2

## New waves in cancer germ line genomics analysis

がん生殖細胞系列ゲノミクス解析の新潮流

Chairpersons: Yukinori Okada (Grad. school of medicine, the university of tokyo)  
Yoichiro Kamatani (Grad. Sch. of Frontier Sci., the Univ. of Tokyo)座長：岡田 随象 (京大・院医)  
鎌谷 洋一郎 (京大・院新領域創成)

Both somatic and germline mutations play essential roles in cancer genomics. While our knowledge on somatic mutation spectra in cancers have developed in the last decade, we still do not know well how germline mutations affect carcinogenesis. To date, biological and clinical interaction between somatic and germline mutations is still elusive. Recent development of high throughput sequencing technology and the national biobank resources have elucidated that rare, low frequency, common, and genome-wide polygenic germline mutations synergically affect susceptibility and/or prognosis of a wide range of human cancers. Bioinformatics and machine learning methodologies to integrate such germline mutations and multi-layer human omics information becomes important. Contribution of the environmental factors, namely gene environmental interaction, is another important modality to understand cancer germline mutation pathogenesis. In this session, we have a series of the invited talks and panel discussions focusing on the latest updates of the cancer germline mutations towards personalized medicine.

## S2-1 Cancer Research by Integrating Genome Analysis and Environmental Factors

Chizu Tanikawa, Koichi Matsuda (Graduate School of Frontier Sciences, The University of Tokyo)

ゲノム解析と環境要因の融合によるがん研究

谷川 千津、松田 浩一 (東京大学大学院・新領域創成科学研究科)

## S2-2 Genome-wide association study provides insights into the etiology and epidemiology of intracranial germ cell tumors.

Kyuto Sonohara<sup>1,2,3</sup>, Yui Kimura<sup>4,5</sup>, Yoshiko Nakano<sup>5,6</sup>, Tatsuya Ozawa<sup>5</sup>, Takashi Fujii<sup>7,8,9</sup>, Arata Tomiyama<sup>7,8,9</sup>, Tomonari Suzuki<sup>10</sup>, Shigeru Yamaguchi<sup>11</sup>, Tomoru Miwa<sup>12</sup>, Naoyuki Ohe<sup>13</sup>, Junya Fukai<sup>14</sup>, Atsufumi Kawamura<sup>15</sup>, Koichi Ichimura<sup>5,9</sup>, Ryo Nishikawa<sup>19</sup>, Yukinori Okada<sup>1,2,3</sup>, Keita Terashima<sup>4</sup> (1Dept. Genome Informatics, Grad. Sch. Med., Univ. Tokyo, 2Dept. Statistical Genetics, Osaka Univ. Grad. Sch. Med., 3Lab. Systems Genetics, RIKEN Ctr. Integrative Med. Sci., 4Div. Neuro-Oncology, Natl. Ctr. Child Health & Development, 5Div. Brain Tumor Translational Res., Natl. Cancer Center Res. Inst., 6Dept. Pediatrics, Univ. Tokyo Hosp., 7Dept. Neurosurgery, Natl. Defense Med. Coll., 8Dept. Neurosurgery, Juntendo Univ. Sch. Med., 9Dept. Brain Disease Translational Res., Grad. Sch. Med., Juntendo Univ., 10Dept. Neuro-Oncology/Neurosurgery, Saitama Med. Univ. International Med. Ctr., 11Dept. Neurosurgery, Faculty Med., Hokkaido Univ., 12Dept. Neurosurgery, Keio Univ. Sch. Med., 13Dept. Neurosurgery, Grad. Sch. Med., Gifu Univ., 14Dept. Neurological Surgery, Wakayama Med. Univ. Sch. Med., 15Dept. Neurosurgery, Hyogo Pref. Kobe Children's Hosp.)

頭蓋内胚細胞腫瘍のゲノムワイド関連解析は遺伝的背景の解明を通じ、病因と疫学の理解に貢献する

曾根原 究人<sup>1,2,3</sup>、木村 由依<sup>4,5</sup>、中野 嘉子<sup>5,6</sup>、小澤 達也<sup>5</sup>、藤井 隆司<sup>7,8,9</sup>、富山 新太<sup>7,8,9</sup>、鈴木 智成<sup>10</sup>、山口 秀<sup>11</sup>、三輪 点<sup>12</sup>、大江 直行<sup>13</sup>、深井 順也<sup>14</sup>、河村 淳史<sup>15</sup>、市村 幸一<sup>5,9</sup>、西川 亮<sup>10</sup>、岡田 随象<sup>1,2,3</sup>、寺島 慶太<sup>4</sup> (1東京大学・医・遺伝情報学、2大阪大学・医・遺伝統計学、3理化学研究所・IMS・システム遺伝学、4国立成育医療研究センター・脳神経腫瘍科、5国立がん研究センター・脳腫瘍連携研究分野、6東京大学・医学部附属病院・小児科、7防衛医科大学校・脳神経外科、8順天堂大学・医・脳神経外科、9順天堂大学・医・脳疾患連携分野研究講座、10埼玉医大国際医療センター・脳脊髄腫瘍科、11北海道大学・医・脳神経外科、12慶應義塾大学・医・脳神経外科、13岐阜大学・医・脳神経外科、14和歌山県立医科大学・医・脳神経外科、15兵庫県立こども病院・脳神経外科)

## S2-3 Lung cancer medicine and prevention leveraging germline information

Takashi Kohno<sup>1,2</sup>, Kouya Shiraishi<sup>2</sup> (1C-CAT, Natl Cancer Ctr, 2Div Genome Bol., Natl Cancer Ctr Res Inst)

生殖細胞系列情報を利用した肺がん医療と予防

河野 隆志<sup>1,2</sup>、白石 航也<sup>2</sup> (1国立がんセンター・C-CAT、2国立がんセンター・ゲノム生物)

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S3

### Cutting-edge Genome Informatics: Unraveling the Mystery of Dark Matter Regions of a Human Genome

ゲノム情報解析の最先端: ヒトゲノムのダークマター領域の謎に迫る

Chairpersons: Shinichi Morishita (The Univ. of Tokyo)  
Yuichi Shiraishi (Natl. Cancer Ctr. Res. Inst.)

座長: 森下 真一 (東京大)  
白石 友一 (国立がん研セ・研)

近年のロングリードシーケンス技術の進歩により、特殊な繰り返し塩基配列で構成されているセントロメア領域、リボソーム RNA 遺伝子領域等の詳細な分析が可能となりつつある。本セッションにおいては、ゲノム上の難読領域に関連する研究に取り組む情報系・実験系の研究者からの講演を通じて、ゲノム解析研究の現在地を把握しつつ、今後の方向性について洞察を深めることを目標とする。

#### S2-4 Utility of Polygenic Risk Scores: From Disease Risk Prediction to Evaluation of Germline-Somatic Associations

Yuki Saito<sup>1,2</sup>, Shinichi Namba<sup>3</sup>, Yasunori Kogure<sup>1</sup>, Yukinori Okada<sup>3,4,5</sup>, Keisuke Kataoka<sup>1,6</sup> (1)Div. Molecul. Oncol., Natl. Cancer Ctr. Res. Inst., (2)Dep. Gastro., Keio Univ. Sch. Med., (3)Dep. Stat. Genet., Osaka Univ. Grad. Sch. Med., (4)Lab. Syst. Genet., RIKEN Ctr. Integrative Med. Sci., (5)Dept. Genome Informatics, Grad. Sch. Med., The Univ. of Tokyo., (6)Div. Hematol., Dep. Med., Keio Univ. Sch. Med.)

ポリジェニックスコアの有用性: 疾患リスク予測から生殖-体細胞変異相関まで

斎藤 優樹<sup>1,2</sup>、難波 真一<sup>3</sup>、木暮 泰寛<sup>1</sup>、岡田 随象<sup>3,4,5</sup>、片岡 圭亮<sup>1,6</sup>  
(1)国立がん研セ・研・分子腫瘍、(2)慶應大・医・消化器内科、(3)大阪大・医・遺伝統計、(4)理研・生命医学研究セ・システム遺伝、(5)東京大・医・遺伝情報、(6)慶應大・医・血液内科)

#### S2-5 Where cancer genetic counseling is going.

Kiwamu Akagi (Dept. Mol. Diagnosis & Cancer Prev. Saitama Cancer Center)

がん遺伝カウンセリングのこれから  
赤木 究 (埼玉県立がんセンター 腫瘍診断・予防科)

#### S3-1 Building and understanding the human pangenome

Erik Garrison (Department of Genetics, Genomics, and Informatics, UTHSC)

#### S3-2 rDNA stability and cellular senescence

Takehiko Kobayashi (Institute for Quantitative Biosciences, University of Tokyo)

リボソーム RNA 遺伝子の安定性と細胞老化  
小林 武彦 (東京大学定量生命科学研究所 (東大定量研))

#### S3-3 Assembly mechanisms of the kinetochore on centromeres

Tatsuo Fukagawa (FBS, Osaka Univ.)

セントロメアにおけるキネトコア集合機構  
深川 竜郎 (大阪大学・生命機能)

#### S3-4 Centromere DNA sequence Diversity in Human Populations

Yuta Suzuki (Dept. Comp. Biol. and Med. Sci., GSFS, The Univ. Tokyo)

ヒト集団におけるセントロメア DNA 配列の多様性  
鈴木 裕太 (東大・新領域・メディカル情報生命)

#### S3-5 On detection of somatic structural variation in highly repetitive regions using long-read sequencing data

Yuichi Shiraishi (National Cancer Center Research Institute)

ロングリードシーケンスを使った高度リピート領域における後天的構造異常の検出  
白石 友一 (国立がん研究センター・研究所)

**J3 Inflammation and microbiome in cancer biology**  
がん病態における炎症と微生物叢

Chairperson: Yaushito Nannya (Dep. Hematol & Oncol, IMS, Univ. Tokyo)  
座長：南谷 泰仁 (東大医科研・血液腫瘍内科)

**J-1001 Clonal expansion in bile duct associated with chronic inflammation**  
Hirona Maeda<sup>1</sup>, Nobuyuki Kakiuchi<sup>1,2,3</sup>, Takashi Ito<sup>4</sup>, Eri Ogawa<sup>5</sup>, Masahiro Shiokawa<sup>2</sup>, Norimitsu Uza<sup>2</sup>, Yoko Tanaka<sup>6</sup>, Yasuhiro Nannya<sup>1,7</sup>, Hideki Makishima<sup>1</sup>, Yuzo Kodama<sup>8</sup>, Etsuro Hatano<sup>4</sup>, Satoru Miyano<sup>6</sup>, Seishi Ogawa<sup>1,9,10</sup> (1)Dept. Path. & Tumor Biol., Kyoto Univ., 2)Dept. Gastroenterology & Hepatology, Kyoto Univ., 3)Hakubi Ctr. for Advanced Res., 4)Dept. Hepato-Biliary-Pancreatic Surg. & Transplantation Dept., Kyoto Univ., 5)Dept. Pediatric Surg., Kyoto Univ., 6)M&D Data Sci. Ctr., Kyoto Med. & Dent. Univ., 7)Dept. Hematol., Inst. of Med. Sci., Tokyo Univ., 8)Div. Gastroenterology, Dept. Internal Med., Kobe Univ., 9)Inst. for the Advanced Study of Human Biol., Kyoto Univ., 10)Dept. Med., Karolinska Inst., Stockholm, Sweden)

**慢性炎症に伴う胆管上皮におけるクローン拡大**  
前田 紘奈<sup>1</sup>、垣内 伸之<sup>1,2,3</sup>、伊藤 孝司<sup>4</sup>、小川 絵里<sup>5</sup>、塩川 雅広<sup>2</sup>、宇座 徳光<sup>2</sup>、田中 洋子<sup>6</sup>、南谷 泰仁<sup>1,7</sup>、牧島 秀樹<sup>1</sup>、児玉 裕三<sup>8</sup>、波多野 悦朗<sup>4</sup>、宮野 悟<sup>6</sup>、小川 誠司<sup>1,9,10</sup> (1)京都大・医・腫瘍生物学、2)京都大・医・消化器内科、3)京都大・白眉センター、4)京都大・医・肝胆膵移植外科、5)京都大・医・小児外科、6)東京医歯大・M&D データ科学センター、7)東京大・医科研・血液腫瘍内科、8)神戸大・消化器内科、9)京都大・ヒト生物学高等研究拠点、10)スウェーデンカロリンスカ研究所)

**J-1002 *Fusobacterium nucleatum* promotes epithelial-mesenchymal transition in murine NMuMG breast cancer cells**  
Akihiro Nakamura<sup>1</sup>, Yutaka Horiuchi<sup>1</sup>, Tomonaga Ichikawa<sup>1</sup>, Okihide Suzuki<sup>2</sup>, Akihiro Yoshida<sup>3</sup>, Takashi Murakami<sup>1</sup> (1)Dept. Microbiol., Fac. Med., Saitama Med. Univ., 2)Dept. Digestive Tract and Surgery, Fac. Med., Saitama Med. Univ., 3)Dept. Oral Microbiol., Matsumoto Dental Univ.)

**嫌気性菌 *Fusobacterium nucleatum* はマウス乳がん細胞株 NMuMG の上皮間葉転換を促進する**  
中村 彰宏<sup>1</sup>、堀内 大<sup>1</sup>、市川 朝永<sup>1</sup>、鈴木 興秀<sup>2</sup>、吉田 明弘<sup>3</sup>、村上 孝<sup>1</sup> (1)埼玉医科大学・医学部微生物学、2)埼玉医科大学・総医診セ・ゲノム診療、3)松本歯科大学・微生物学講座)

**J-1003 Exploring Gut Microbiome for Fecal Transplantation in Combination with Immune Checkpoint Inhibitors**  
Kiyoshi Yoshimura<sup>1,2,3</sup>, Kazuyuki Hamada<sup>2,4</sup>, Junya Isobe<sup>5</sup>, Masahiro Hosonuma<sup>1,2,3</sup>, Yuta Baba<sup>1</sup>, Kohei Tajima<sup>1,3</sup>, Eiji Funayama<sup>1,3</sup>, Hitoshi Toyoda<sup>1,3</sup>, Toshimitsu Tsurui<sup>1,2,3</sup>, Yuya Hirasawa<sup>1,2,3</sup>, Hirotsugu Ariizumi<sup>2</sup>, Tomoyuki Ishiguro<sup>3</sup>, Atsushi Horiike<sup>2</sup>, Satoshi Wada<sup>2,6</sup>, Atsuo Kuramasu<sup>1</sup>, Takuya Tsunoda<sup>2</sup> (1)Department of Clinical Immuno Oncology, CRI, Showa University, 2)Division of Medical Oncology, Medicine, Showa University, 3)Pharmacological Research Center, Showa University, 4)Department of Chest Surgery, Fukushima Medical University, 5)Department of Hospital Pharmaceutics, Showa University, 6)Department of Clinical Diagnostic Oncology, CRI, Showa University)

**免疫チェックポイント阻害剤と併用による便移植のための腸内細菌の探索**  
吉村 清<sup>1,2,3</sup>、浜田 和幸<sup>2,4</sup>、磯部 順哉<sup>3</sup>、細沼 雅弘<sup>1,2,3</sup>、馬場 勇太<sup>1</sup>、田島 康平<sup>1,3</sup>、船山 英治<sup>1,3</sup>、豊田 仁志<sup>1,3</sup>、鶴井 敏光<sup>1,2,3</sup>、平澤 優弥<sup>1,2,3</sup>、有泉 裕嗣<sup>2</sup>、石黒 智之<sup>2</sup>、堀池 篤<sup>2</sup>、和田 聡<sup>2,6</sup>、倉増 敦朗<sup>1</sup>、角田 卓也<sup>2</sup> (1)昭和大学 臨床薬理研究所 臨床免疫腫瘍学、2)昭和大学 医学部内科学講座 腫瘍内科学、3)昭和大学 薬理科学センター、4)福島県立医科大学 呼吸器外科、5)昭和大学 薬学部病院 薬剤学講座、6)昭和大学臨床薬理研究所臨床腫瘍診断学)

**J-1004 Characterization of *E. faecalis* involved in the pathogenesis of chronic pancreatitis and cancer**  
Mamika Sonoda<sup>1</sup>, Munehumi Shimosaka<sup>1</sup>, Jumpei Kondo<sup>1</sup>, Rui Kawaguchi<sup>1</sup>, Emika Noda<sup>1</sup>, Syuu Fujiyama<sup>1</sup>, Shinji Takamatsu<sup>1</sup>, Yoshihumi Iwagami<sup>3</sup>, Hidenori Takahashi<sup>3</sup>, Yoshihiro Kamada<sup>2</sup>, Hidetoshi Eguchi<sup>3</sup>, Eiji Miyoshi<sup>1</sup> (1)Osaka Univ. Grad. Sch. Med., Dept. Mol. Biochem. & Clin. Invest., 2)Osaka Univ. Grad. Sch. Med., Dept. Med. Phys. & Eng., 3)Osaka Univ. Grad. Sch. Med., Dept. Gastroenterological Surg.)

**慢性膵炎、膵臓癌の病態に関わるエンテロコッカスの性状解析**  
園田 麻美香<sup>1</sup>、下坂 宗史<sup>1</sup>、近藤 純平<sup>1</sup>、川口 瑠惟<sup>1</sup>、野田 愛美香<sup>1</sup>、藤山 紫結<sup>1</sup>、高松 真二<sup>1</sup>、岩上 佳史<sup>3</sup>、高橋 秀典<sup>3</sup>、鎌田 佳宏<sup>2</sup>、江口 英利<sup>3</sup>、三善 英知<sup>1</sup> (1)阪大・院医・生体病態情報科学、2)阪大・院医・生体物理学講座、3)阪大・院医・消化器外科)

**J-1005 Functional analysis of *Brd4* in IFN $\gamma$ -induced cell death**  
Akimi Yonezawa<sup>1,2</sup>, Haruna Takeda<sup>1</sup> (1)Natl. Cnacer Ctr. Res. Inst., 2)Kitasato Univ.)

**太陽がん関連候補遺伝子 *Brd4* の IFN $\gamma$  誘導性細胞死における機能解析**  
米澤 晶巳<sup>1,2</sup>、武田 はるな<sup>1</sup> (1)国立がん研究センター研究所、2)北里大学)

**J-1006 Prognostic impact of Stimulator of Interferon Genes expression in triple negative breast cancer.**

Tetsuyo Maeda<sup>1</sup>, Makiko Ono<sup>2</sup>, Tomohiro Chiba<sup>3,4</sup>, Tomo Osako<sup>3,4</sup>, Asumi Iesato<sup>1</sup>, Yukinori Ozaki<sup>1</sup>, Yuka Inoue<sup>1</sup>, Natsue Uehiro<sup>1</sup>, Yoko Takahashi<sup>1</sup>, Nami Yamashita<sup>1</sup>, Takayuki Kobayashi<sup>1</sup>, Takahiro Kogawa<sup>5</sup>, Shigehisa Kitano<sup>3</sup>, Takayuki Ueno<sup>1</sup>, Shinji Ohno<sup>1</sup> (1)Breast Oncology Center, CIH, JFCR, 2)Department of Medical Oncology, CIH, JFCR, 3)Division of Pathology, Cancer Institute of JFCR, 4)Department of Pathology, CIH, JFCR, 5)Department of Advanced Medical Development, CIH, JFCR)

**トリプルネガティブ乳癌における Stimulator of Interferon Genes 発現の予後への影響**

前田 哲代<sup>1</sup>、小野 麻紀子<sup>2</sup>、千葉 知宏<sup>3,4</sup>、大迫 智<sup>3,4</sup>、家里 明日美<sup>1</sup>、尾崎 由記範<sup>1</sup>、井上 有香<sup>1</sup>、植弘 奈津恵<sup>1</sup>、高橋 洋子<sup>1</sup>、山下 奈真<sup>1</sup>、小林 隆之<sup>1</sup>、古川 孝広<sup>3</sup>、北野 滋久<sup>3</sup>、上野 貴之<sup>1</sup>、大野 真司<sup>1</sup> (1)がん研究会有明病院 乳腺センター、2)がん研究会有明病院 総合腫瘍科、3)がん研究会癌研究所 病理部、4)がん研究会有明病院 病理部、5)がん研究会有明病院 先端医療開発センター)

## J12-1 Cancer immunology and immunotherapy

がん免疫応答の理解と治療法開発

Chairperson: Hirokazu Matsushita (Div. Translational Oncoimmunol., Aichi Cancer Ctr.)

座長: 松下 博和 (愛知県がんセンター 腫瘍免疫制御 TR)

## J-1007 Zeb2 regulates differentiation of long-lived effector of invariant NKT cells

Kanako Shimizu<sup>1</sup>, Tomonori Iyoda<sup>1</sup>, Satoru Yamasaki<sup>1</sup>, Shinchiro Fujii<sup>1,2</sup> (<sup>1</sup>Lab for Immunotherapy, RIKEN-IMS, <sup>2</sup>Program for DMP, RIKEN)Zeb2 は iNKT 細胞の長期生存エフェクター細胞への分化を制御する  
清水 佳奈子<sup>1</sup>、伊豫田 智典<sup>1</sup>、山崎 哲<sup>1</sup>、藤井 眞一郎<sup>1,2</sup> (理研 免疫細胞治療研究チーム、理研 創薬・医療技術基盤プログラム)

## J-1008 Indoleamine 2,3-dioxygenase 1 (IDO1) inhibitor demonstrates antitumor effect in dogs with urothelial carcinoma

Takaaki Iguchi<sup>1</sup>, Namiko Ikeda<sup>1</sup>, Daiki Kato<sup>1</sup>, Susumu Aoki<sup>1</sup>, Shiyu Qin<sup>1</sup>, Ryosuke Ohata<sup>1</sup>, Shoma Koseki<sup>1</sup>, Hayato Shibahara<sup>1</sup>, Takahiro Kako<sup>1</sup>, Yuko Hashimoto<sup>2</sup>, Yousuke Takahashi<sup>2</sup>, Naohiro Takahashi<sup>2</sup>, James Chambers<sup>3</sup>, Kazuyuki Uchida<sup>3</sup>, Ryohei Nishimura<sup>1</sup>, Takayuki Nakagawa<sup>1</sup> (<sup>1</sup>Lab. Vet. Surg., Grad. Sch. of Agri., Univ. of Tokyo, <sup>2</sup>Veterinary Med. Ctr., Univ. of Tokyo, <sup>3</sup>Lab. Vet. Pathol., Grad. Sch. of Agri., Univ. of Tokyo)

インドールアミン 2,3 ジオキシゲナーゼ 1 (IDO1) 阻害薬は犬尿路上皮癌症例に対して抗腫瘍効果を示す

井口 貴瑛<sup>1</sup>、池田 凡子<sup>1</sup>、加藤 大貴<sup>1</sup>、青木 督<sup>1</sup>、秦 詩雨<sup>1</sup>、太田 峻介<sup>1</sup>、小関 翔馬<sup>1</sup>、柴原 隼人<sup>1</sup>、加古 貴大<sup>1</sup>、橋本 裕子<sup>2</sup>、高橋 洋介<sup>2</sup>、高橋 尚大<sup>2</sup>、チェンバーズ ジェームズ<sup>3</sup>、内田 和幸<sup>3</sup>、西村 亮平<sup>1</sup>、中川 貴之<sup>1</sup> (東京大・農・獣医外科学、東京大・動物医療センター、東京大・農・獣医病理学)

## J-1009 Analysis of antitumor effect with long lasting memory induced by a novel cancer vaccine based on HANG with TCR-T therapy

Fumiyasu Momose<sup>1</sup>, Takashi Nakai<sup>2</sup>, Kohei Yabuuchi<sup>2</sup>, Makiko Yamane<sup>1</sup>, Tae Hayashi<sup>1</sup>, Yoshiyuki Nakagawa<sup>2</sup>, Shogo Aso<sup>2</sup>, Toru Katsumata<sup>2</sup>, Tsuyoshi Shimoboji<sup>2</sup>, Yoshihiro Miyahara<sup>1</sup> (<sup>1</sup>Dept. Personalized Cancer Immunotherapy, Mie Univ., Grad. Sch. Med., <sup>2</sup>New Product Development Office, Functional Additives Div., Asahi Kasei Corporation)

ヒアルロン酸ナノゲルを基盤とした新規がんワクチンと TCR-T 細胞併用療法の持続した抗腫瘍・再発抑制作用の解析

百瀬 文康<sup>1</sup>、中井 貴士<sup>2</sup>、藪内 昂平<sup>2</sup>、山根 真妃子<sup>1</sup>、林 妙<sup>1</sup>、中川 慶之<sup>2</sup>、麻生 尚吾<sup>2</sup>、勝又 徹<sup>2</sup>、下房地 剛<sup>2</sup>、宮原 慶裕<sup>1</sup> (三重大・院医・個別化がん免疫治療学、旭化成・添加剤事業部・新製品開発推進室)

## J-1010 Treatment of B16F10 and colon26 tumors in mice using electrical discharge plasma

Ryo Ono<sup>1</sup>, Kengo Wada<sup>1</sup>, Ryuichiro Ito<sup>1</sup>, Daiki Okada<sup>1</sup>, Atsushi Komuro<sup>1</sup>, Hideyuki Yanai<sup>2</sup> (<sup>1</sup>Dept. Advanced Energy, Grad. School Frontier Sci., Univ. Tokyo, <sup>2</sup>Dept. Inflammation, Res. Center Adv. Sci. & Technol. Univ. Tokyo)

放電プラズマを用いたマウス B16F10 および colon26 腫瘍の照射による抗腫瘍効果

小野 亮<sup>1</sup>、和田 健吾<sup>1</sup>、伊藤 隆一郎<sup>1</sup>、岡田 大樹<sup>1</sup>、小室 淳史<sup>1</sup>、柳井 秀元<sup>2</sup> (東京大学 新領域 先端エネルギー工学専攻、東京大学 先端研)

## J-1011 Antigen spreading against prostate cancer induced by a novel multivalent cellular vaccine, aAVC-PROS

Yamasaki Satoru<sup>1</sup>, Kanako Shimizu<sup>1,2</sup>, Shinichiro Fujii<sup>1,2</sup> (<sup>1</sup>RIKEN IMS Lab for Immunotherapy, <sup>2</sup>RIKEN DMP)

新規多価細胞ワクチン aAVC-PROS による前立腺癌に対する抗原拡散効果

山崎 哲<sup>1</sup>、清水 佳奈子<sup>1,2</sup>、藤井 眞一郎<sup>1,2</sup> (理研 IMS 免疫細胞治療研究チーム、理研 創薬・医療技術基盤プログラム)

## J-1012 Tumor-derived semaphorin 4A improves anti-PD-1 antibody efficacy by enhancing CD8+ T-cell cytotoxicity and proliferation

Yujiro Naito<sup>1</sup>, Shohei Koyama<sup>1,2</sup>, Kentaro Masuhiro<sup>1</sup>, Takashi Hirai<sup>3</sup>, Takako Inoue<sup>4</sup>, Hiroto Machiyama<sup>1</sup>, Motohiro Tamiya<sup>1</sup>, Kazuo Yamashita<sup>5</sup>, Masahide Mori<sup>6</sup>, Yoshito Takeda<sup>1</sup>, Atsushi Kumanogoh<sup>1</sup> (<sup>1</sup>Dept. of Respiratory Med. and Clin. Immunol., Osaka Univ., <sup>2</sup>Div. of Cancer Immunol., Natl. Cancer Ctr., <sup>3</sup>Dept. of Otorhinolaryngology-Head and Neck Surg., Osaka Univ., <sup>4</sup>Dept. of Thoracic Oncology, Osaka International Cancer Inst., <sup>5</sup>KOTAI Biotechnologies, Inc., <sup>6</sup>Dept. of Thoracic Oncology, Osaka Toneyama Med. Ctr.)

腫瘍由来のセマフォリン 4A は CD8 陽性 T 細胞の細胞障害活性と増殖能を高め、抗 PD-1 抗体の治療効果を増強する

内藤 祐二郎<sup>1</sup>、小山 正平<sup>1,2</sup>、益弘 健太郎<sup>1</sup>、平井 崇士<sup>3</sup>、井上 貴子<sup>4</sup>、町山 裕知<sup>4</sup>、田宮 基裕<sup>4</sup>、山下 和男<sup>5</sup>、森 雅秀<sup>6</sup>、武田 吉人<sup>1</sup>、熊ノ郷 淳<sup>1</sup> (<sup>1</sup>大阪大学 呼吸器免疫内科、<sup>2</sup>国立がん研究センター 研究所 免疫 TR 分野、<sup>3</sup>大阪大学 耳鼻咽喉科・頭頸部外科学、<sup>4</sup>大阪国際がんセンター 呼吸器内科、<sup>5</sup>KOTAI バイオテクノロジー株式会社、<sup>6</sup>大阪刀根山医療センター 呼吸器腫瘍内科)

Room 7 Sep. 21 (Thu.) 9:00-10:15

E

**E16-1** New therapeutic targetes and therapeutic modality  
新規治療標的・治療法Chairperson: Hiroaki Sakurai (Dept. Cancer Cell Biol. Univ. Toyama)  
座長：櫻井 宏明 (富山大・薬・がん細胞生物学)**E-1001** Screening of NCYM-Targeting Drugs using a Cholangiocarcinoma Organoid ModelRohmad Y. Utomo<sup>1,2,3</sup>, Yusuke Suenaga<sup>3</sup>, Hiroyuki Kogashi<sup>3,4</sup>, Kazuma Nakatani<sup>3,4,5</sup>, Seigi Yamamoto<sup>3</sup>, Umami M. Zulfin<sup>2,3,4</sup>, Edy Meiyanto<sup>1,2</sup>, Yoshitaka Hippo<sup>6</sup> (1)Department of Pharmaceutical Chemistry, Faculty of Pharmacy, UGM, 2Cancer Chemoprevention Research Center, Faculty of Pharmacy, UGM, 3Laboratory of Evolutionary Oncology, CCCRI, 4Department of Molecular Biology and Oncology, Chiba University, 5Innovative Medicine CHIBA Doctoral WISE Program, 6Laboratory of Precision Tumor Model Systems, CCCRI)**E-1002** Identification of URST8 as a novel prognostic biomarker and therapeutic target for breast cancerRegina Mbugua<sup>1,2</sup>, Atsushi Takano<sup>1,2,3</sup>, Bayarbat Tsevegjav<sup>1,2</sup>, Yohei Miyagi<sup>4</sup>, Yataro Daigo<sup>1,2,3</sup> (1)Dep. Med. Oncol. & Cancer Ctr., Shiga Univ. Med. Sci., 2Ctr. for Advanced Med. against Cancer, Shiga Univ. of Med. Sci., 3Ctr. for Antibody and Vaccine, Univ. of Tokyo, 4Mol. Pathology & Genet. Div., Kanagawa Cancer Ctr.)乳がんの新規バイオマーカー・治療標的分子 URST8 の機能解析  
ンボガ レジナ<sup>1,2</sup>、高野 淳<sup>1,2,3</sup>、シェベグジャブ バヤルバット<sup>1,2</sup>、宮城 洋平<sup>4</sup>、醍醐 弥太郎<sup>1,2,3</sup> (1)滋賀医大 臨床腫瘍学講座、2滋賀医大 先端がん研究センター、3東京大学医科研 抗体ワクチンセンター、4神奈川県立がんセンター)**E-1003** A potential novel treatment for osteosarcoma based on the combination of BH3 mimetic with TKISatoshi Takagi<sup>1</sup>, Sumie Koike<sup>1</sup>, Miho Takami<sup>1</sup>, Ai Takemoto<sup>1</sup>, Naoya Fujita<sup>2</sup>, Ryohei Katayama<sup>1</sup> (1)Div. of Exp. Chemother., Cancer Chemother. Ctr., JFCR, 2Cancer Chemother. Ctr., JFCR)BH3 mimetic と TKI の併用に基づく骨肉腫の新規治療法の可能性  
高木 聡<sup>1</sup>、小池 清恵<sup>1</sup>、高見 美穂<sup>1</sup>、竹本 愛<sup>1</sup>、藤田 直也<sup>2</sup>、片山 量平<sup>1</sup> (1 (公財) がん研・がん治療セ・基礎研究部、2 (公財) がん研・がん治療セ)**E-1004** Novel CSF1R inhibitor, FF-10101, strongly inhibit tumor-associated macrophages and improve anti-tumor responseTakahiko Sato<sup>1,2</sup>, Daisuke Sugiyama<sup>2</sup>, Yasuhiro Kojima<sup>2</sup>, Satomi Hattori<sup>3</sup>, Kazuki Sone<sup>2</sup>, Yuichi Ishikawa<sup>1</sup>, Hiroyoshi Nishikawa<sup>2,5</sup>, Hitoshi Kiyoi<sup>1</sup> (1)Dept. Hematology and Oncology, Nagoya Univ. Grad. Sch. Med., 2Dept. Immunology, Nagoya Univ. Grad. Sch. Med., 3Lab. Computational Life Science, National Cancer Center, 4Dept. Obstetrics and Gynecology, Nagoya Univ. Grad. Sch. Med., 5Div. Cancer Immunology, EPOC, National Cancer Center)

新規 CSF1R 阻害剤 FF-10101 による、免疫抑制性腫瘍関連マクロファージの阻害と抗腫瘍免疫応答の誘導

佐藤 貴彦<sup>1,2</sup>、杉山 大介<sup>2</sup>、小嶋 泰弘<sup>2</sup>、服部 諭美<sup>4</sup>、曾根 一輝<sup>2</sup>、石川 裕一<sup>1</sup>、西川 博嘉<sup>2,5</sup>、清井 仁<sup>1</sup> (1名古屋大学大学院 医 血液・腫瘍内科学、2名古屋大学大学院 医 分子細胞免疫学、3国立がん研究センター研究所 計算生命学、4名古屋大学大学院 医 産婦人科学、5国立がん研究センター研究所 免疫 TR 分野)**E-1005** Bell-shaped dose response to tankyrase inhibitors in the drug-tolerant patient-derived colorectal cancer cellsShun Morino<sup>1,2</sup>, Tetsuo Mashima<sup>1</sup>, Satoshi Nagayama<sup>3</sup>, Fumiyuki Shirai<sup>1</sup>, Ryohei Katayama<sup>2,5</sup>, Hiroyuki Seimiya<sup>1,2</sup> (1)Div. Mol. Biother., Cancer Chemother. Ctr., JFCR, 2Grad. Sch. Front. Sci., Uni. Tokyo, 3Dept. Gastroenterol. Surg., Cancer Inst. Hosp., JFCR, 4Drug Discovery Chemistry Platform Unit, CSRS, RIKEN, 5Div. Exp. Chemother., Cancer Chemother. Ctr., JFCR)

タンキラーゼ阻害剤に耐性化した患者由来大腸がん細胞のベル型用量反応性機構

森野 峻<sup>1,2</sup>、馬島 哲夫<sup>1</sup>、長山 聡<sup>3</sup>、白井 文幸<sup>4</sup>、片山 量平<sup>2,5</sup>、清宮 啓之<sup>1,2</sup> (1 (公財) がん研・治療セ・分子生物治療、2東京大・院新領域、3 (公財) がん研・有明病院・大腸外科、4理研・CSRS・創薬化学基盤、5 (公財) がん研・治療セ・基礎)**E-1006** Novel Antibody Exerts Antitumor Effect through Downregulation of CD147 and Activation of Multiple Stress SignalsHiroshi Yuita<sup>1</sup>, Sadanori Watanabe<sup>2</sup>, Yoshikazu Johmura<sup>3</sup>, Sae Aratani<sup>4</sup>, Makoto Nakanishi<sup>4</sup>, Keisuke Fukuchi<sup>1</sup> (1)Translational Sci. Dept. II, Daiichi Sankyo Co. Ltd., 2Discovery Res. Lab. I, Daiichi Sankyo Co. Ltd., 3Can. Res. Inst. of Kanazawa University, 4The Inst. of Med. Sci., The Univ. of Tokyo)

CD147 分子の発現低下及びストレス応答性シグナル活性化を介した

## 抗腫瘍活性を有する、新規抗 CD147 抗体の樹立

結田 浩史<sup>1</sup>、渡邊 定則<sup>2</sup>、城村 由和<sup>3</sup>、荒谷 紗絵<sup>4</sup>、中西 真<sup>4</sup>、福地 圭介<sup>2</sup> (1第一三共株式会社 TS 第二部、2第一三共株式会社ディスカバリ一第一研究所、3金沢大学 がん進展制御研究所、4東京大学 医科学研究所)

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E16-2 Circumvention of drug resistance  
薬剤耐性・抵抗性の克服

Chairperson: Hiromichi Ebi (Div. Mol. Ther. Aichi Can. Ctr. Res. Ins.)  
座長: 衣斐 寛倫 (愛知がん・研究所・がん標的治療 TR)

## E-1007 Overcoming adaptive resistance to KRAS G12C inhibitors

Yuta Adachi<sup>1</sup>, Niitsu Hiroaki<sup>1</sup>, Rui Yamaguchi<sup>2</sup>, Hiromichi Ebi<sup>1</sup>  
(<sup>1</sup>Division of Molecular Therapeutics, Aichi Cancer Center Research Institute, <sup>2</sup>Division of Cancer Systems Biology, Aichi Cancer Center Research Institute)

## KRAS G12C 阻害薬の適応耐性の克服

足立 雄太<sup>1</sup>、新津 宏明<sup>1</sup>、山口 類<sup>2</sup>、衣斐 寛倫<sup>1</sup> (愛知県がんセンターがん標的治療 TR 分野、<sup>2</sup>愛知県がんセンター システム解析学分野)

## E-1008 Adaptive resistance to KRAS-G12C inhibitors through AXL activation in KRAS-G12C mutant tumor cells

Kenji Morimoto<sup>1</sup>, Tadaaki Yamada<sup>1</sup>, Soichi Hirai<sup>1</sup>, Yuki Katayama<sup>1</sup>, Seiji Yano<sup>2</sup>, Mano Horinaka<sup>3</sup>, Toshiyuki Sakai<sup>3</sup>, Shinsaku Tokuda<sup>1</sup>, Koichi Takayama<sup>1</sup> (<sup>1</sup>Department of Pulmonary Medicine, Kyoto Prefectural University of Medicine, <sup>2</sup>Department of Respiratory Medicine, Kanazawa University, <sup>3</sup>Department of Drug Discovery Medicine, Kyoto Prefectural University of Medicine)

## KRAS-G12C 陽性肺がんにおける AXL の活性化を介した KRAS-G12C 阻害薬初期治療抵抗性

森本 健司<sup>1</sup>、山田 忠明<sup>1</sup>、平井 聡一<sup>1</sup>、片山 勇輝<sup>1</sup>、矢野 聖二<sup>2</sup>、堀中 真野<sup>3</sup>、酒井 敏行<sup>3</sup>、徳田 深作<sup>1</sup>、高山 浩一<sup>1</sup> (京都府立医科大学呼吸器内科、<sup>2</sup>金沢大学医薬保健研究域医学系呼吸器内科学、<sup>3</sup>京都府立医科大学大学院医学研究科創薬医学)

## E-1009 Overcoming ARID1A mutation-induced osimertinib resistance in EGFR-mutant NSCLC leptomeningeal carcinomatosis

Koji Fukuda, Shinji Takeuchi, Sachiko Arai, Shigeki Nanjo, Seiji Yano (Kanazawa Univ. Cancer Inst.)

## EGFR 変異髄膜癌モデルにおける ARID1A 変異によるオシメルチニブ耐性獲得とその克服治療法の確立

福田 康二、竹内 伸司、新井 祥子、南條 成輝、矢野 聖二 (金沢大学・がん研・腫瘍内科)

## E-1010 Drug screening using reprogramming resistance to overcome resistance to ALK-targeted therapy

Takahiro Utsumi<sup>1</sup>, Ken Uchibori<sup>2</sup>, Makoto Nishio<sup>3</sup>, Yasuhiro Yamada<sup>3</sup>, Isamu Okamoto<sup>4</sup>, Ryohei Katayama<sup>1</sup> (<sup>1</sup>Div. Exp. Chemother., Cancer Chemother. Ctr., JFCR, <sup>2</sup>Dept. Thoracic Med. Oncology, Cancer Inst. Hosp., JFCR, <sup>3</sup>Dept. Mol. Pathol. Grad. Sch. Med., Univ. Tokyo, <sup>4</sup>Dep. Respiratory Med., Grad. Sch. Med. Sci., Kyushu Univ.)

## 初期化抵抗性スクリーニングを用いた ALK 陽性肺癌における治療耐性克服法の探索

内海 太裕<sup>1</sup>、内堀 健<sup>2</sup>、西尾 誠人<sup>2</sup>、山田 泰広<sup>3</sup>、岡本 勇<sup>4</sup>、片山 量平<sup>1</sup> (1 (公財) がん研・化療セ・基礎研究部、2 (公財) がん研・有明病院・呼吸器センター、3 東大・院・医 分子病理学分野、4 九大・院・医 呼吸器内科学分野)

## E-1011 Detection of low-dose ligand dependent drug-resistance through loss of tumor suppressor genes in ALK/ROS1 positive NSCLC

Nobuyuki Kondo<sup>1,2</sup>, Yasunari Miyazaki<sup>2</sup>, Ryohei Katayama<sup>1,3</sup>, Makoto Nishio<sup>4</sup>, Ken Uchibori<sup>4</sup> (<sup>1</sup>Division of Experimental Chemotherapy, Cancer Chemotherapy Center, JFCR, <sup>2</sup>Tokyo Medical and Dental University, Department of Respiratory Medicine, <sup>3</sup>CBMS, Graduate School of Frontier Science, The University of Tokyo, <sup>4</sup>Department of Thoracic Medical Oncology, The Cancer Institute Hospital, JFCR)

## ALK/ROS1 陽性肺癌におけるがん抑制遺伝子の欠損に伴う低濃度リガンド依存的な薬剤耐性機構の探索

近藤 信幸<sup>1,2</sup>、宮崎 泰成<sup>2</sup>、片山 量平<sup>1,3</sup>、西尾 誠人<sup>4</sup>、内堀 健<sup>4</sup> (1 がん研究会がん化学療法センター基礎研究部、2 東京医科歯科大学 呼吸器内科、3 東京大学大学院 新領域メディカル情報生命、4 がん研有明病院 呼吸器内科)

## E-1012 Intrinsic resistance to selpercatinib via HER3 signaling in RET aberrant cancer cells

Yuki Katayama<sup>1</sup>, Tadaaki Yamada<sup>1</sup>, Keiko Tanimura<sup>1</sup>, Kenji Morimoto<sup>1</sup>, Seiji Yano<sup>2</sup>, Mano Horinaka<sup>3</sup>, Toshiyuki Sakai<sup>3</sup>, Koichi Takayama<sup>1</sup> (<sup>1</sup>Department of Pulmonary Medicine, Kyoto Prefectural University of Medicine, <sup>2</sup>Division of Medical Oncology, Cancer Research Institute, Kanazawa University, <sup>3</sup>Department of Drug Discovery Medicine, Kyoto Prefectural University of Medicine)

## RET 変異がんにおける HER3 活性化を介したセルペルカチニブに対する治療抵抗性に関する基礎的検討

片山 勇輝<sup>1</sup>、山田 忠明<sup>1</sup>、谷村 恵子<sup>1</sup>、森本 健司<sup>1</sup>、矢野 聖二<sup>2</sup>、堀中 真野<sup>3</sup>、酒井 敏行<sup>3</sup>、高山 浩一<sup>1</sup> (京都府立医科大学附属病院 呼吸器内科、<sup>2</sup>金沢大学 がん進展制御研究所 腫瘍内科、<sup>3</sup>京都府立医科大学大学院医学研究科創薬医学)

S4 Revisiting epigenetics in cancer  
エピゲノムの今未来

Chairpersons: Atsushi Iwama (Dept. Stem Cell Mol. Cell., Inst. Med. Sci., Univ. Tokyo)  
Yasuhiro Murakawa (Kyoto Univ.)

座長: 岩間 厚志 (東京大・医科研・幹細胞分子医学)  
村川 泰裕 (京大)

Recent advances in molecular biology and functional genomics have enabled the identification of epigenetic alterations in specific genes and pathways that contribute to tumorigenesis. In addition, the use of epigenetic therapies, such as DNA methylation inhibitors and histone deacetylase inhibitors, has shown promise in the treatment of certain types of cancer. However, many challenges still remain in the field of cancer epigenetics to fully understand the mechanisms of cancer development and maintenance. In this symposium, we will discuss the recent efforts to fully understand the complex interplay between genetics and epigenetics in tumorigenesis. We will also talk about emerging concepts of epigenetics related to the aging process, a major risk factor for various cancers. Furthermore, we will introduce an array of new and disruptive technologies to reveal new aspects of cancer epigenetics. These technologies include functional genomics tools that allow detailed studies of cancer epigenetics at high genomic resolution, as well as spatial epigenomic profiling methods at the single-cell level. This symposium aims to provide a forum for a lively discussion of new biology and technologies that will open up new directions in cancer epigenetics research.

## S4-1 The loss of epigenetic information induced by DNA damage drives aging

Motoshi Hayano (Keio University, School of Medicine, Department of Orthopedic Surgery)

DNA 損傷によるエピゲノム情報の消失と、老化制御  
早野 元詞 (慶應義塾大学医学部整形外科科学教室)

## S4-2 Deciphering the cis-regulatory epigenetic code in malignancies using 5' RNA sequencing approaches

Yasuhiro Murakawa<sup>1,2,3</sup> (<sup>1</sup>WPI-ASHBi, Kyoto University, <sup>2</sup>RIKEN Center for Integrative Medical Sciences, <sup>3</sup>IFOM-ETS)

新規の網羅的転写開始点シークエンシング法による悪性腫瘍の系統的エピゲノム解析

村川 泰裕<sup>1,2,3</sup> (1 京大・ヒト生物学高等研究拠点、2 理研・生命医科学研究センター、3 IFOM 癌研究所)

## S4-3 Spatial Multi-Omics Sequencing to Study Human Physiology, Aging and Disease

Rong Fan (Dept. of Biomedical Engineering)

## S4-4 Durable clinical impacts and mechanisms of action and resistance in histone H3K27me3 targeting epigenetic therapy

Makoto Yamagishi<sup>1</sup>, Yuta Kuze<sup>1</sup>, Satoko Morishima<sup>2</sup>, Toyotaka Kawamata<sup>3,4</sup>, Junya Makiyama<sup>3,5</sup>, Kako Suzuki<sup>1</sup>, Isao Yasumatsu<sup>6</sup>, Gensuke Takayama<sup>7</sup>, Kazumi Ito<sup>7</sup>, Yasuhiro Nannya<sup>3,8</sup>, Shinji Tsutsumi<sup>7</sup>, Yutaka Suzuki<sup>1</sup>, Kaoru Uchimaru<sup>1</sup> (<sup>1</sup>Dept. CBMS, Grad. Sch. Front. Sci., Univ. of Tokyo, <sup>2</sup>2nd Dept. Internal Med, Grad. Sch. Med., Univ. of Tokyo, <sup>3</sup>Dept. Hematol/Oncol., IMSUT Hosp., Univ. of Tokyo, <sup>4</sup>Dept. Hematol., Tokyo Metropolitan Bokutoh Hosp., <sup>5</sup>Dept. Hematol., Sasebo City Gen. Hosp., <sup>6</sup>Daichi Sankyo RD Novare Co., Ltd., <sup>7</sup>Daichi Sankyo Co., Ltd., <sup>8</sup>Div. Hematopoietic Dis. Contl, IMSUT, Univ. of Tokyo)

ヒストン H3K27me3 異常を標的としたエピゲノム治療の作用機序・耐性機序

山岸 誠<sup>1</sup>、久世 裕太<sup>1</sup>、森島 聡子<sup>2</sup>、川俣 豊隆<sup>3,4</sup>、牧山 純也<sup>3,5</sup>、鈴木 佳子<sup>1</sup>、安松 勲<sup>6</sup>、高山 源介<sup>7</sup>、伊藤 和美<sup>7</sup>、南谷 泰仁<sup>3,8</sup>、堤 信二<sup>7</sup>、鈴木 穰<sup>1</sup>、内丸 薫<sup>1</sup> (1 東京大学・院・新領域・メディカル情報生命、2 琉球大・院・医学研究科・第二内科、3 東京大学・医科研・血液腫瘍内科、4 都立墨東病院・血液内科、5 佐世保市総合医療センター・血液内科、6 第一三共・RD ノバーレ、7 第一三共株式会社、8 東京大学・医科研・造血病態制御学)

## S4-5 Chromatin accessibility in stem cells unveils progressive transcriptional reprogramming in myelodysplastic syndrome

Atsushi Iwama (Dept. Stem Cell Mol. Cell., Inst. Med. Sci., Univ. Tokyo)

クロマチンアクセシビリティプロファイリングによる骨髄異形成症候群の病態解析

岩間 厚志 (東京大学・医科学研究科・幹細胞分子医学)

## S4-6 Targeting transcriptional CDKs in Cancer

Ricky W. Johnstone (Peter MacCallum Cancer Centre)



Room 9 Sep. 21 (Thu.) 9:00-10:15

E

E9

**Dysregulation epigenome and chromatin structure in cancer (1)**

がんにおけるエピゲノムとクロマチン構造の制御異常 (1)

Chairperson: Akihiko Yokoyama (National Cancer Center Tsuruoka Metabolomics Laboratory)

座長: 横山 明彦 (国立がん研究センター・鶴岡連携研究拠点)

**E-1013 Epigenetic alterations in cancer ecosystem contribute to determination of cancer cell phenotype**Naoko Hattori<sup>1</sup>, Yoshimi Yasukawa<sup>1</sup>, Yuyu Liu<sup>1</sup>, Satoshi Yamashita<sup>2</sup>, Toshikazu Ushijima<sup>1</sup> (<sup>1</sup>Dep. of Epigenomics, Inst. for Advanced Life Sci., Hoshi Univ., <sup>2</sup>Faculty of Engineering, Maebashi Inst. of Tech.)

がんエコシステムのエピジェネティック変化はがん細胞の性質を決定する

服部 奈緒子<sup>1</sup>, 安川 佳美<sup>1</sup>, リュウ ユユ<sup>1</sup>, 山下 聡<sup>2</sup>, 牛島 俊和<sup>1</sup> (星薬科大学・先端生命研・エピゲノム創薬、<sup>2</sup>前橋工科大学・情報生命工学群)**E-1014 Integrated Genome-wide HiChIP Analysis Identified Aberrant Enhancer Transcriptional Regulatory Network in Gastric Cancer**

Tianhui Zhu, Atsushi Okabe, Takayuki Hoshii, Ryoji Fujiki, Motoaki Seki, Meng Ning, Makoto Matsumoto, Rahmutulla Bahityar, Masaki Fukuyo, Atsushi Kaneda (Dept. of Mol. Onc., Grad. Sch. of Med., Chiba Univ.)

HiChIP を用いた胃癌エピゲノム統合解析による異常エンハンサー転写調節ネットワークの同定

朱 天慧、岡部 篤史、星居 孝之、藤木 亮次、関 元昭、寧 萌、松本 真、バハテヤリ ラヒムトラ、福世 真樹、金田 篤志 (千葉大学 医学部 分子腫瘍学)

**E-1015 TIP60 is required for tumorigenesis in non-small cell lung cancer**Daisuke Shibahara<sup>1,2</sup>, Naoki Akanuma<sup>3</sup>, Ikei Kobayashi<sup>2</sup>, Eunyoung Heo<sup>2</sup>, Mariko Ando<sup>3</sup>, Masanori Fujii<sup>3</sup>, Feng Jiang<sup>3</sup>, Nicholas Prin<sup>3</sup>, Gilbert Pan<sup>3</sup>, Kwok Wong<sup>4</sup>, Daniel Costa<sup>2</sup>, Deepak Bararia<sup>3</sup>, Daniel Tenen<sup>5,6</sup>, Hideo Watanabe<sup>3</sup>, Susumu Kobayashi<sup>2,5</sup> (<sup>1</sup>Department of Respiratory Medicine, Kyushu University, <sup>2</sup>Beth Israel Deaconess Medical Center, <sup>3</sup>Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai, <sup>4</sup>Perlmutter Cancer Center, NYU Langone Medical Center, <sup>5</sup>Harvard Stem Cell Institute, Harvard Medical School, <sup>6</sup>Cancer Science Institute of Singapore, National University of Singapore)

非小細胞肺癌における TIP60 の役割

柴原 大典<sup>1,2</sup>, 赤沼 直毅<sup>2</sup>, 小林 いけい<sup>2</sup>, ヘオ ウンヤン<sup>2</sup>, 安藤 まりこ<sup>2</sup>, 藤井 昌学<sup>3</sup>, ジアング フェン<sup>3</sup>, プリン ニコラス<sup>3</sup>, パン ギルバート<sup>3</sup>, ウォング クウォック<sup>4</sup>, コスタ ダニエル<sup>2</sup>, パラリア ディーバック<sup>3</sup>, テネン ダニエル<sup>5,6</sup>, 渡邊 ひでお<sup>3</sup>, 小林 進<sup>2,5</sup> (九州大学大学院医学研究院呼吸器内科学分野、<sup>2</sup>ベイスラエルエルダコネスメディカルセンター、<sup>3</sup>マウントサイナイ医科大学、<sup>4</sup>ニューヨーク ランゴンメディカルセンター、<sup>5</sup>ハーバードメディカルスクール、<sup>6</sup>シンガポール国際大学)**E-1016 Selective HDAC8 inhibition potentiates tumor remission and durable benefit by PD-L1 blockade**

Weiqin Yang, Yu Feng, Jingying Zhou, Alfred S. Cheng (Sch. of Biomed. Sci., CUHK)

**E-1017 ASCL1 functions as a pioneer factor that induces subtype switching and characterizes adrenergic neuroblastoma**Lu Wang<sup>1</sup>, Lu Wang<sup>1</sup>, Tzeking Tan<sup>1</sup>, Hyoju Kim<sup>1</sup>, Dennis Kappei<sup>1,2,3</sup>, Shihao Tan<sup>1</sup>, Thomas Look<sup>4,5</sup>, Takaomi Sanda<sup>1,3,6</sup> (<sup>1</sup>Cancer Sci. Inst. of Singapore, <sup>2</sup>Dept. of Biochem., Natl. Univ. of Singapore, <sup>3</sup>NUS Ctr. for Cancer Res., Natl. Univ. of Singapore, <sup>4</sup>Dept. of Pediatric Oncology, Harvard Medical Sch., <sup>5</sup>Div. of Pediatric Hematology Oncology, Boston Childrens Hosp., <sup>6</sup>Dept. of Med., Natl. Univ. of Singapore)**E-1018 Epigenetic reprogramming of SYTL3 restores an inflamed tumor microenvironment in gastric cancer**Michael W. Chan<sup>1,2,3</sup>, Jie T. Low<sup>1,2,3</sup> (<sup>1</sup>Dept. of Biomed. Sci., Natl. Chung Cheng Univ., Taiwan, <sup>2</sup>Epigenomics & Human Diseases Center, Natl. Chung Cheng Univ., Taiwan, <sup>3</sup>CIRAS, Natl. Chung Cheng Univ., Taiwan)

Room 9 Sep. 21 (Thu.) 10:15-11:30

J

J9-1

**Dysregulation epigenome and chromatin structure in cancer (2)**

がんにおけるエピゲノムとクロマチン構造の制御異常 (2)

Chairperson: Yasuhiro Yamada (Dept. Mol. Path., Grad. Sch. Med. The Univ. Tokyo)

座長: 山田 泰広 (東大・院・医・分子病理学)

**J-1013 Developing novel chemical catalyst enabling cancer epigenome manipulation**Shigehiro Kawashima<sup>1</sup>, Yuki Yamanashi<sup>1</sup>, Atsushi Okabe<sup>2</sup>, Satoshi Kaito<sup>3</sup>, Tomoya Kujirai<sup>4</sup>, Hitoshi Kurumizaka<sup>1</sup>, Atsushi Iwama<sup>5</sup>, Atsushi Kaneda<sup>2</sup>, Kenzo Yamatsugu<sup>1</sup>, Motomu Kanai<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, The University of Tokyo, <sup>2</sup>Graduate School of Medicine, Chiba University, <sup>3</sup>Institute for Quantitative Biosciences, The University of Tokyo, <sup>4</sup>The Institute of Medical Science, The University of Tokyo)

がんエピゲノム操作が可能な新規化学触媒の開発

川島 茂裕<sup>1</sup>, 山梨 祐輝<sup>1</sup>, 岡部 篤史<sup>2</sup>, 海渡 智史<sup>3</sup>, 鯨井 智也<sup>4</sup>, 胡桃 坂仁志<sup>4</sup>, 岩間 厚志<sup>3</sup>, 金田 篤志<sup>2</sup>, 山次 健三<sup>1</sup>, 金井 求<sup>1</sup> (東大院薬、<sup>2</sup>千葉大院医、<sup>3</sup>東大定量研、<sup>4</sup>東大医科研)**J-1014 Mutant NPM forms dimer to control chromatin structure and compartment by regulating TIP60 and CTCF in AML**

Issay Kitabayashi, Yukiko Aikawa, Kazutsune Yamagata (Division of Hematological Malignancy, National Cancer Center Research Institute)

変異型 NPM は二量体を形成して TIP60 と CTCF を制御しクロマチン構造とコンパートメントを調節する

北林 一生、相川 祐規子、山形 和恒 (国立がん研究センター研究所造血管腫瘍)

**J-1015 Enhancer infestation by EBV-host genomic interactions contributes to nasopharyngeal carcinoma development**Harue Mizokami<sup>1,2</sup>, Atsushi Okabe<sup>2</sup>, Masato Mima<sup>2,3</sup>, Masaki Fukuyo<sup>2</sup>, Rahmutulla Bahityar<sup>2</sup>, Motoaki Seki<sup>2</sup>, Satoru Kondo<sup>1</sup>, Hiroto Dochi<sup>1</sup>, Tomokazu Yoshizaki<sup>1</sup>, Atsushi Kaneda<sup>2</sup> (<sup>1</sup>Divi. Oto., Grad. Sch. Med., Kanazawa Univ., <sup>2</sup>Dept. Mol. Oncol., Grad. Sch. Med., Chiba Univ., <sup>3</sup>Dep. Oto., Hamamatsu Univ. Sch. of Med.)

EBV ゲノムとの相互作用が誘導する上咽頭癌のエンハンサー侵襲

溝上 晴恵<sup>1,2</sup>, 岡部 篤史<sup>2</sup>, 美馬 勝人<sup>2,3</sup>, 福世 真樹<sup>2</sup>, バハテヤリ ラヒムトラ<sup>2</sup>, 関 元昭<sup>2</sup>, 近藤 悟<sup>1</sup>, 土地 宏朋<sup>1</sup>, 吉崎 智一<sup>1</sup>, 金田 篤志<sup>2</sup> (金沢大学医学部耳鼻咽喉科・頭頸部外科、<sup>2</sup>千葉大学医学部分子腫瘍学、<sup>3</sup>浜松医科大学医学部耳鼻咽喉科・頭頸部外科)**J-1016 Inflammatory stress activates the Hmga2 protein to remodel chromatin and expand hematopoietic stem cell**

Goro Sashida, Sho Kubota (IRCMS, Kumamoto Univ.)

ストレス造血における HMGA2 による造血幹細胞の制御機構

指田 吾郎、久保田 翔 (熊本大学・国際先端医学研究機構)

**J-1017 ARID1A has opposite functions in the conventional and serrated pathways in colon tumorigenesis**

Go Yamakawa, Akihisa Fukuda, Kosuke Iwane, Munenori Kawai, Mayuki Omatsu, Mio Namikawa, Makoto Sono, Tomonori Masuda, Osamu Araki, Munemasa Nagao, Takaaki Yoshikawa, Takahisa Maruno, Yuki Nakanishi, Yukiko Hiramatsu, Hiroshi Seno (Dept. Gastroenterology and Hepatology, Kyoto Univ. Grad. Sch. Med.)

大腸腫瘍発生における ARID1A の二面性

山川 剛、福田 晃久、岩根 康祐、河相 宗矩、尾松 万悠紀、並川 美桜、藺 誠、益田 朋典、荒木 理、長尾 宗政、吉川 貴章、丸野 貴久、中西 祐貴、平松 由紀子、妹尾 浩 (京都大学大学院医学研究科 消化器内科学)

**J-1018 ML-based cancer related super-enhancer evaluation platform utilizing multi-omics information and public TF databases**Norio Shinkai<sup>1,2</sup>, Syuzo Kaneko<sup>1,2</sup>, Ken Asada<sup>1,2</sup>, Ken Takasawa<sup>1,2</sup>, Masaaki Komatsu<sup>1,2</sup>, Hidenori Machino<sup>1,2</sup>, Ryuji Hamamoto<sup>1,2,3</sup> (<sup>1</sup>Cancer Transl. Res. Team, RIKEN Ctr. for AIP project, <sup>2</sup>Div. Medical AI Res. Dev., Natl. Cancer Ctr. Res. Inst., <sup>3</sup>NCC Cancer Sci., Grad. Sch., Tokyo Med. Dent. Univ.)

マルチオミックス情報及び公共転写因子情報による機械学習を活用したがん関連スーパーエンハンサー評価実施プラットフォーム

新海 典夫<sup>1,2</sup>, 金子 修三<sup>1,2</sup>, 浅田 健<sup>1,2</sup>, 高澤 建<sup>1,2</sup>, 小松 正明<sup>1,2</sup>, 町野 英徳<sup>1,2</sup>, 浜本 隆二<sup>1,2,3</sup> (理研・革新知能統合研究セ・がん探索医療、<sup>2</sup>国立がん研究セ・研・医療 AI 研究開発、<sup>3</sup>東京医歯大・院・NCC 腫瘍医学)

E24 Epidemiology (1)  
疫学 (1)

Chairperson: Tomohiro Matsuda (National Cancer Center Institute for Cancer Control)

座長: 松田 智大 (国立がん研究センターがん対策研究所)

## E-1019 Cancer prevalence projections in Japan and changes in cancer burden, 2020-2050: A statistical modeling study

Phuong T. Nguyen<sup>1,2</sup>, Megumi Hori<sup>3</sup>, Tomohiro Matsuda<sup>1</sup>, Kota Katanoda<sup>1</sup> (1)Natl. Cancer Ctr. Inst. for Cancer Control, 2)St. Luke's International Univ., Grad. Sch. of Public Health, 3)Sch. Nurs. Univ. Shizuoka)

## E-1020 Area-based socioeconomic inequalities in cancer survival using the National Cancer Registry

Yuri Ito<sup>1</sup>, Keisuke Fukui<sup>2</sup>, Kota Katanoda<sup>3</sup>, Tomotaka Sobue<sup>3,4</sup> (1)Dept. Med Stat., Res. & Dev. Ctr, Osaka Med. Pharm. Univ., 2)Societal Safety Sci., Kansai Univ., 3)Inst. Cancer Control, Natl. Cancer Ctr., 4)Environmental Med. Pop. Sci., Osaka Univ.)

全国がん登録を用いた地域の社会経済指標によるがん生存率の格差  
伊藤 ゆり<sup>1</sup>、福井 敬祐<sup>2</sup>、片野田 耕太<sup>3</sup>、祖父江 友孝<sup>3,4</sup> (1)大阪医薬大・医学研究支援セ・医療統計室、2)関西大 社会安全学部、3)国立がん研究セ がん対策研究所、4)大阪大・環境医学)

## E-1021 Global Trend Analysis of Incidence of Early-Onset Obesity-Related and Non-Obesity-Related Cancers

Miyu Terashima<sup>1,2</sup>, Hwayoung Lee<sup>3,4</sup>, Yuta Tsukumo<sup>5</sup>, Satoko Ugai<sup>5</sup>, Minkyong Song<sup>6</sup>, Naoko Sasamoto<sup>7,8</sup>, Ichiro Kawachi<sup>2</sup>, Ugai Tomotaka<sup>5,9,10</sup> (1)Dept. of Epidemiology, Okayama Univ. Sch. of Med., 2)Dept. of Social/Behavioral Sciences, Harvard Sch. of Public Health, 3)Dept. of Global Health/Population, Harvard Sch. of Public Health, 4)Grad. Sch. of Public Health/Healthcare Management, Catholic Univ. of Korea, 5)Dept. of Epidemiology, Harvard Sch. of Public Health, Boston, 6)Lab. of Epidemiology/Population Sciences, Natl. Inst. on Aging, NIH, 7)Dept. of Obstetrics and Gynecology, Brigham & Women's Hosp., 8)Dept. of Obstetrics and Gynecology/Reproductive Biology, Harvard Med. Sch., 9)Dept. of Pathology, Brigham & Women's Hosp., 10)Cancer Epidemiology Program, Dana-Farber/Harvard Cancer Ctr.,)

若年発症がん罹患率のグローバル分析：肥満関連がんと非肥満関連がんに注目して

寺島 美優<sup>1,2</sup>、Hwayoung Lee<sup>3,4</sup>、九十九 悠太<sup>5</sup>、鶴飼 智子<sup>5</sup>、Minkyong Song<sup>6</sup>、佐々本 尚子<sup>7,8</sup>、カワチ イチロー<sup>2</sup>、鶴飼 知高<sup>5,9,10</sup> (1)岡山大学大学院 疫学・衛生学分野、2)ハーバード公衆衛生大学院 社会行動学部、3)ハーバード公衆衛生大学院国際保健学部、4)韓国カトリック大学公衆衛生ヘルスケア学部、5)ハーバード公衆衛生大学院疫学学部、6)米国国立加齢研究所疫学学部、7)プリガムアンドウィメンズ病院産婦人科、8)ハーバード医科大学産婦人科生殖学科、9)プリガムアンドウィメンズ病院病理科、10)ダナファーバー・ハーバードがんセンター)

## E-1022 Disparities in cancer screening uptake among Indian women aged 30-49 years

Shafiqur Rahman<sup>1</sup>, Mahfuzur Rahman<sup>2</sup>, Sarah Abe<sup>1</sup> (1)Natl. Cancer Ctr. Inst. for Cancer Control, Tokyo, Japan, 2)St. Luke's International Univ., Tokyo, Japan)

## E-1023 Obesity is associated with biliary tract cancer risk: a pooled analysis of 21 cohorts in the Asia Cohort Consortium

Isao Oze<sup>1</sup>, Hidemi Ito<sup>2,3</sup>, Yuriko Koyanagi<sup>2</sup>, Sarah Abe<sup>4</sup>, Rahman Shafiqur<sup>4,5</sup>, Eiko Saito<sup>6</sup>, Akiko Tamakoshi<sup>7</sup>, Norie Sawada<sup>8</sup>, Ritsu Sakata<sup>9</sup>, Ichiro Tsuji<sup>10</sup>, Chisato Nagata<sup>11</sup>, Manami Inoue<sup>4</sup>, Keitaro Matsuo<sup>1,12</sup> (1)Div Cancer Epidemiol. Prev., Aichi Cancer Ctr. Res. Inst., 2)Div. Cancer Information Control, Aichi Cancer Ctr. Res. Inst., 3)Div. Descriptive Cancer Epidemiol. Nagoya Univ. Grad. Sch. Med., 4)Div. Prev., Natl. Cancer Inst. Cancer Control, 5)Res. Ctr. Child Mental Dev., Hamamatsu Univ. Sch. Med., 6)Inst. Global Health Policy Res., Natl. Ctr. Global Health Med., 7)Dep. Public Health, Hokkaido Univ. Faculty Med., 8)Div. Cohort Res., Natl. Cancer Ctr. Inst. Cancer Control, 9)Radiation Effects Res. Foundation, 10)Tohoku Univ. Grad. Sch. Med., 11)Dep. Epidemiol. Preventive Med., Gifu Univ. Grad. Sch. Med., 12)Dep. Cancer Epidemiol. Nagoya Univ. Grad. Sch. Med.)

肥満は胆道がん罹患と死亡リスクに関連する - アジアコホート連合21コホートのプール解析

尾瀬 功<sup>1</sup>、伊藤 秀美<sup>2,3</sup>、小柳 友理子<sup>2</sup>、阿部 サラ<sup>4</sup>、シャフィール ラーマン<sup>4,5</sup>、齋藤 英子<sup>6</sup>、玉腰 暁子<sup>7</sup>、澤田 典絵<sup>8</sup>、坂田 律<sup>9</sup>、辻一郎<sup>10</sup>、永田 知里<sup>11</sup>、井上 真奈美<sup>4</sup>、松尾 恵太郎<sup>1,12</sup> (1)愛知県がんセンター研究所 がん予防、2)愛知県がんセンター研究所 がん情報、3)名古屋大 がん記述疫学、4)国立がん研究センター がん対策研究所、5)浜松医大 こころの発達研究センター、6)国立国際医療研究センタ

一、7)北海道大 公衆衛生学、8)国立がん研究センター がん対策研究所、9)放射線影響研究所、10)東北大 公衆衛生学、11)岐阜大 疫学・予防医学、12)名古屋大 がん分析疫学)

## E-1024 Cancer risk following surgical removal of tonsils and adenoids-a cohort study in Sweden

Jing F. Liang<sup>1,2,3</sup>, Yi Huang<sup>1,2</sup>, Li Yin<sup>3</sup>, Fatemeh Sadeghi<sup>4,5</sup>, Yan P. Yang<sup>1,2</sup>, Xue Xiao<sup>1,2</sup>, Hans O. Adami<sup>3,5</sup>, Wei M. Ye<sup>3</sup>, Zhe Zhang<sup>1,2</sup>, Fang Fang<sup>4</sup> (1)Dept. Otolaryngology-Head&Neck Surgery, GXMU, 2)Key laboratory of High-Incidence-Tumor Prevention & Treatment, Ministry of Education, GXMU, 3)Dept. of Medical Epidemiology and Biostatistics, Karolinska Institutet, 4)Institute of Environmental Medicine, Karolinska Institutet, 5)Institute of Health and Society, University of Oslo)

Chairperson: Taiki Yamaji (Div. Epidemiol., Natl. Can. Ctr. Inst. Can. Ctrl.)  
座長：山地 太樹 (国立がん研究センターがん対策セ・疫学研究部)

**J-1019 Development of a geographical information system for cancer incidence data in Japan**

Kota Katanoda<sup>1</sup>, Megumi Hori<sup>2</sup>, Hirokazu Tanaka<sup>1</sup> (<sup>1</sup>Natl. Canc. Ctr. Inst. Canc. Contr., <sup>2</sup>Sch. Nursing, Univ. of Shizuoka)

**がん罹患データの地理情報システムの開発**

片野田 耕太<sup>1</sup>、堀 芽久美<sup>2</sup>、田中 宏和<sup>1</sup> (<sup>1</sup>国立がん研究センターがん対策研究所、<sup>2</sup>静岡県立大学看護学部)

**J-1020 Relationship between airborne pollen levels and incidence of cancers of thyroid, esophagus, kidney and skin in 1975-2015**

Akira Awaya<sup>1</sup>, Yoshiyuki Kuroiwa<sup>2</sup> (<sup>1</sup>Dermatology & Epidemiology Research Institute(DERI), <sup>2</sup>Hospital Mizonokuchi, Teikyo University School of Medicine)

**1975-2015年の甲状腺・食道・腎臓・皮膚等癌の罹患数と花粉飛散数との相関性。大量花粉飛散の2023年の新規癌罹患数は増大途上か**

粟屋 昭<sup>1</sup>、黒岩 義之<sup>2</sup> (<sup>1</sup>皮膚科学疫学研究所、<sup>2</sup>帝京大学医学部附属溝口病院)

**J-1021 Changes in survival of patients with non-small cell lung cancer in Japan: an interrupted time series study**

Yukari Taniyama<sup>1</sup>, Isao Oze<sup>2</sup>, Yuriko Koyanagi<sup>2</sup>, Yukino Kawakatsu<sup>1</sup>, Yuri Ito<sup>3</sup>, Tomohiro Matsuda<sup>4</sup>, Keitaro Matsuo<sup>2,5</sup>, Tetsuya Mitsudomi<sup>6</sup>, Hidemi Ito<sup>1,7</sup> (<sup>1</sup>Div. of Cancer Information & Control, Aichi Cancer Ctr., <sup>2</sup>Div. of Cancer Epidemiology & Prevention, Aichi Cancer Ctr., <sup>3</sup>Dept. of Med. Stat., Osaka Med. & Pharm. Univ., <sup>4</sup>National Cancer Ctr., Inst. for Cancer Control, <sup>5</sup>Div. of Cancer Epidemiology, Nagoya Univ. Grad. Sch. Med., <sup>6</sup>Div. of Thoracic Surg, Kindai Univ. Faculty of Med., <sup>7</sup>Div. of Descriptive Cancer Epidemiology, Nagoya Univ. Grad. Sch. Med.)

**日本における非小細胞肺がん患者の生存率の変化：分割時系列研究**  
谷山 祐香里<sup>1</sup>、尾瀬 功<sup>2</sup>、小柳 友理子<sup>2</sup>、川勝 雪乃<sup>1</sup>、伊藤 ゆり<sup>3</sup>、松田 智大<sup>4</sup>、松尾 恵太郎<sup>2,5</sup>、光富 徹哉<sup>6</sup>、伊藤 秀美<sup>1,7</sup> (<sup>1</sup>愛知県がんセンターがん情報・対策研究分野、<sup>2</sup>愛知県がんセンターがん予防研究分野、<sup>3</sup>大阪医科大学大学院医学系研究科がん分析疫学、<sup>4</sup>国立がん研究センターがん対策研究所、<sup>5</sup>名古屋大学大学院医学系研究科がん分析疫学、<sup>6</sup>近畿大学医学部呼吸器外科学、<sup>7</sup>名古屋大学大学院医学系研究科がん記述疫学)

**J-1022 Serum soluble Fas levels and incidence of liver cancer**

Yasushi Adachi<sup>1,2</sup>, Masahiro Nojima<sup>3</sup>, Mitsuru Mori<sup>4</sup>, Toshiyuki Kubo<sup>1,2</sup>, Noriyuki Akutsu<sup>1</sup>, Yasushi Sasaki<sup>3</sup>, Hiroshi Nakase<sup>1</sup>, Takao Endo<sup>2</sup>, Yingsong Lin<sup>6</sup>, Kenji Wakai<sup>7</sup>, Akiko Tamakoshi<sup>8</sup> (<sup>1</sup>Dept. of Gastroenterol., Sapporo Med. Univ., Sch. Med., <sup>2</sup>Div. Gastroenterol., Sapporo Shirakaba-dai Hosp., <sup>3</sup>Inst. Med. Sci., Univ. of Tokyo, <sup>4</sup>okkaido Chitose Coll. of Rehabilitation, <sup>5</sup>Div. Biology, Sapporo Med. Univ., <sup>6</sup>Aichi Med. Univ., Dept. Public Health, <sup>7</sup>Dept. Preventive Med., Nagoya Univ. Sch. Med., <sup>8</sup>Dept. Public Helth, Hokkaido Univ. Sch. Med.)

**血清可溶性 Fas 値と肝臓癌罹患リスク**

足立 靖<sup>1,2</sup>、野島 正寛<sup>3</sup>、森 満<sup>4</sup>、久保 俊之<sup>1,2</sup>、阿久津 典之<sup>1</sup>、佐々木 泰史<sup>5</sup>、仲瀬 裕志<sup>1</sup>、遠藤 高夫<sup>2</sup>、林 櫻松<sup>6</sup>、若井 建志<sup>7</sup>、玉腰 暁子<sup>8</sup> (<sup>1</sup>札幌医大・医・消化器内科、<sup>2</sup>札幌しらかば台病院・消化器科、<sup>3</sup>東京大学・医科学研究所、<sup>4</sup>北海道千歳リハビリテーション大学、<sup>5</sup>札幌医大・医療人育成センター・生物学、<sup>6</sup>愛知医大・医・公衆衛生、<sup>7</sup>名古屋大・医・予防医学、<sup>8</sup>北海道大・医・公衆衛生)

**J-1023 Association between sugar intake and colorectal cancer risk in middle-aged adults: a prospective cohort study**

Kanehara Rieko<sup>1</sup>, Ryoko Katagiri<sup>1,2</sup>, Atsushi Goto<sup>1,3</sup>, Taiki Yamaji<sup>1</sup>, Norie Sawada<sup>1</sup>, Motoki Iwasaki<sup>1</sup>, Manami Inoue<sup>1</sup>, Shoichiro Tsugane<sup>1,4</sup> (<sup>1</sup>National Cancer Center Institute for Cancer Control, <sup>2</sup>National Institute of Health and Nutrition, <sup>3</sup>Graduate School of Data Science, Yokohama City University, <sup>4</sup>International University of Health and Welfare Graduate School)

**前向きコホート研究における糖質摂取量と大腸がん罹患リスクの関連**  
金原 里恵子<sup>1</sup>、片桐 諒子<sup>1,2</sup>、後藤 温<sup>3</sup>、山地 太樹<sup>1</sup>、澤田 典絵<sup>1</sup>、岩崎 基<sup>1</sup>、井上 真奈美<sup>1</sup>、津金 昌一郎<sup>1,4</sup> (<sup>1</sup>国立がん研究センターがん対策研究所、<sup>2</sup>国立健康・栄養研究所、<sup>3</sup>横浜市立大学 データサイエンス研究科、<sup>4</sup>国際医療福祉大学大学院)

**J-1024 Internet survey on HPV vaccination for men**

Asami Yagi<sup>1</sup>, Yutaka Ueda<sup>1</sup>, Tadashi Kimura<sup>1</sup>, Atsuko Kitano<sup>2</sup>, Chikako Shimizu<sup>3</sup>, Masato Yoshihara<sup>4</sup>, Yusuke Shimizu<sup>4</sup>, Seido Takae<sup>5</sup>, Miyuki Harada<sup>6</sup>, Tatsuro Furui<sup>7</sup>, Kenichirou Morishige<sup>8</sup>, Hirosaki Kajiyama<sup>4</sup>, Nao Suzuki<sup>9</sup> (<sup>1</sup>Grad. Sch. of Med., Osaka Univ., <sup>2</sup>Department of Medical Oncology, St Luke's International Hosp., <sup>3</sup>Ctr. for Reproductive Med. Osaka General Med. Ctr., <sup>4</sup>Grad. Sch. of Med., Nagoya Univ., <sup>5</sup>St. Marianna Univ. Sch. of Med., <sup>6</sup>Grad. Sch. of Med., Tokyo Univ., <sup>7</sup>Grad. Sch. of Med., Gifu Univ., <sup>8</sup>Ctr. for Reproductive Med. Osaka General Med. Ctr.)

**HPV ワクチン男子接種に関するインターネット調査**

八木 麻未<sup>1</sup>、上田 豊<sup>1</sup>、木村 正<sup>1</sup>、北野 敦子<sup>2</sup>、清水 千佳子<sup>3</sup>、吉原 雅人<sup>4</sup>、清水 裕介<sup>4</sup>、高江 正道<sup>5</sup>、原田 美由紀<sup>6</sup>、古井 辰郎<sup>7</sup>、森重 健一郎<sup>8</sup>、梶山 広明<sup>4</sup>、鈴木 直<sup>9</sup> (<sup>1</sup>大阪大 医学部 産婦人科、<sup>2</sup>聖路加国際病院 腫瘍内科、<sup>3</sup>大阪急性期・総合医療センター、<sup>4</sup>名古屋大 医学部付属病院 産婦人科学、<sup>5</sup>聖マリアンナ医科大 産婦人科学、<sup>6</sup>東京大 医学部 産婦人科、<sup>7</sup>岐阜大 医学部 産婦人科、<sup>8</sup>大阪急性期・総合医療センター)

**E17-1 Development of new strategies for cancer therapy**  
 新しいがん治療戦略の開発

Chairperson: Shingo Dan (Div. Mol. Pharmacol., Cancer Chemother. Ctr. of JFCR)

座長：旦 慎吾 (がん研究会がん化学療法センター分子薬理部)

**E-1025 Use of patient-derived organoids to develop a therapeutic strategy targeting oncogene amplification**

 Atsushi Takatori<sup>1</sup>, Hiroyuki Yoda<sup>1</sup>, Yoshiaki Maru<sup>2</sup>, Yoshitaka Hippo<sup>2</sup> (Div. Innov. Cancer Therap., Chiba Cancer Ctr. Res. Inst., <sup>2</sup>Div. Mol. Carcinog., Chiba Cancer Ctr. Res. Inst.)

 患者由来オルガノイドを用いた増幅がん遺伝子標的治療法の開発  
 高取 敦志<sup>1</sup>、養田 裕行<sup>1</sup>、丸 喜明<sup>2</sup>、筆宝 義隆<sup>2</sup> (1千葉がんセ 研  
 がん先進、2千葉がんセ 研 発がん制御)

**E-1026 Combination Therapy of Lurbinectedin and AZD6738 for Effective Elimination of ALT Cancer Cells**

 Liv W. Chen<sup>1</sup>, Chenchia Lo<sup>1</sup>, Tingchia Chang<sup>1</sup>, Weiwu Chen<sup>2</sup>, Jean M. Egly<sup>3</sup>, Hsuehping C. Chu<sup>1</sup> (1Inst. of Mol. & Cell. Biol., Natl. Taiwan Univ., Taipei, Taiwan, <sup>2</sup>Dept. of Oncology, Natl. Taiwan Univ. Hosp., Taipei, Taiwan, <sup>3</sup>Dept. of Functional Genomics & Cancer, IGBMC, Strasbourg, France)

**E-1027 Involvement of ALDH1A3 in gastric cancer growth and potentiation of efficacy of chemotherapy by an ALDH1A3 inhibitor**

 Tetsuo Mashima<sup>1</sup>, Jin Lee<sup>1,2</sup>, Ayane Nakamura<sup>1,3</sup>, Naomi Kawata<sup>1,5</sup>, Koshi Kumagai<sup>4</sup>, Kensei Yamaguchi<sup>3</sup>, Hiroyuki Seimiya<sup>1,2,3</sup> (1Div Mol Biother, Cancer Chemother Ctr, JFCR, <sup>2</sup>Dept Comp Biol Med Sci, Grad Frontier Sci, Univ Tokyo, <sup>3</sup>Grad Life Pharm Sci, Meiji Pharm Univ, <sup>4</sup>Dept Gastroenterol Surg, Cancer Inst Hosp, JFCR, <sup>5</sup>Dept Gastroenterol Chemother, Cancer Inst Hosp, JFCR)

アルデヒド脱水素酵素 ALDH1A3 の胃がん腫瘍増殖への寄与と小分子阻害剤による制がん剤の効果増強

 馬島 哲夫<sup>1</sup>、李 珍<sup>1,2</sup>、中村 彩音<sup>1,3</sup>、川田 直美<sup>1,5</sup>、熊谷 厚志<sup>4</sup>、山口 研成<sup>5</sup>、清宮 啓之<sup>1,2,3</sup> (1がん研 治療 分子生物治療、2東京大 院 新領域 メディカル情報生命、3明治薬科大 院 生命創薬科学、4がん研 有明病院 消化器外科、5がん研 有明病院 消化器化学療法科)

**E-1028 Combination of phosphatase nanozyme of Cys nanodots with PARP inhibitor for overcoming drug resistance**

Yingqiu Xie (Department of Biology, School of Sciences and Humanities, Nazarbayev University)

**E-1029 Cucurbitacin-I, a natural triterpenoid, the apoptotic cell death pathway inducer of human ovarian cancer cell.**

Jiwon Park, Jinkyung Kim (Dept. of Biomed., SCI)

**E-1030 Anti-tumor activity of SC-042, a highly potent synthetic analogue of intervenolin, targeting tumor microenvironment**

 Manabu Kawada<sup>1</sup>, Junjiro Yoshida<sup>1</sup>, Tomokazu Ohishi<sup>1,2</sup>, Masahide Amemiya<sup>1</sup> (1Institute of Microbial Chemistry, Lab. Oncology, <sup>2</sup>Institute of Microbial Chemistry, Numazu)

がん微小環境に作用する新規化合物インターペノリンの高活性誘導体の抗がん効果

 川田 学<sup>1</sup>、吉田 潤次郎<sup>1</sup>、大石 智一<sup>1,2</sup>、雨宮 昌秀<sup>1</sup> (1微化研 第1生  
 物、2微化研 沼津支所)

**E17-2 Mechanisms of and Therapeutic strategies to the anti-cancer drugs and immunotherapy resistance**  
 がん化学療法とがん免疫療法に対する獲得耐性機構とその克服法

Chairperson: Satoshi Watanabe (Respiratory Medicine and Infectious Diseases, Niigata Univ. Medical and Dental Hosp.)

座長：渡部 聡 (新潟大学・医・呼吸器・感染症内科)

**E-1031 Pemetrexed-induced ferroptosis in A549 human lung cancer cells and a protective role of p21**

Mamoru Harada, Yuichi Iida, Mahbulul Hoque, Hitoshi Kotani (Dept. Immunol., Shimane Univ. Facult. Med.)

原田 守、飯田 雄一、ホック マーブブル、小谷 仁司 (島根大学 医学部 免疫学)

**E-1032 Overcoming platinum resistance of ovarian cancer regulating the activated JAK/STAT pathways via extracellular vesicles**

 Kazuhiro Suzuki<sup>1</sup>, Akira Yokoi<sup>1</sup>, Kousuke Yoshida<sup>1</sup>, Eri Inami<sup>2</sup>, Masami Kitagawa<sup>3</sup>, Yusuke Yamamoto<sup>3</sup>, Miho Kitai<sup>4</sup>, Sayaka Ueno<sup>5</sup>, Tamotsu Sudo<sup>6</sup>, Hiroaki Kajiyama<sup>1</sup> (1Dept. Obst. & Gynecol., Nagoya Univ. Grad. Sch. of Med., <sup>2</sup>Bell Research Ctr., Nagoya Univ., <sup>3</sup>Lab. Integra. Oncol., Natl. Cancer Ctr. Res. Inst., <sup>4</sup>Dept. Gynecol., Hyogo cancer Ctr., <sup>5</sup>Lab. Trans. Res., Hyogo cancer Ctr.)

プラチナ抵抗性卵巣癌克服に向けた細胞外小胞関連 JAK/STAT 経路解析

 鈴木 一弘<sup>1</sup>、横井 暁<sup>1</sup>、吉田 康将<sup>1</sup>、稲見 恵理<sup>2</sup>、北川 雅美<sup>2</sup>、山本 雄介<sup>3</sup>、北井 美穂<sup>4</sup>、植野 さやか<sup>5</sup>、須藤 保<sup>6</sup>、梶山 広明<sup>1</sup> (1名古屋大 医学部 産婦人科、2名古屋大・ペルリサーチセンター、3国立がん研 究セ・研・病態情報学、4兵庫がんセ・婦人科、5兵庫がんセ・研)

**E-1033 Chemo-Immunotherapy of Nanomedicine and ICI for Reprogramming Tumor Microenvironment to Overcome ICI-Resistance**

 Hiroaki Kinoh<sup>1</sup>, Sabina Quader<sup>1</sup>, Horacio Cabral<sup>1,2</sup>, Moeka Tamura<sup>1</sup>, Yuki Tada<sup>1</sup>, Lin Zhou<sup>1</sup>, Xueying Liu<sup>1</sup>, Dung Doan<sup>1</sup>, Kazunori Kataoka<sup>1</sup> (1Innovation center of NanoMedicine, <sup>2</sup>Tokyo Univ. Bioengin.)

ナノメディシンと ICI の化学免疫療法は、腫瘍微小環境のリプログラミングで ICI 抵抗性を克服する

 喜納 宏昭<sup>1</sup>、クワドラ サビーナ<sup>1</sup>、カブラル オラシオ<sup>1,2</sup>、田村 萌歌<sup>1</sup>、多田 裕樹<sup>1</sup>、ゾウ リン<sup>1</sup>、劉 学螢<sup>1</sup>、ドーン ダング<sup>1</sup>、片岡 一則<sup>1</sup> (1ナノ医療イノベーションセンター、2東大 工学 バイオエンジニア)

**E-1034 Drug delivery improvement of CAFs targeted photoimmunotherapy**

 Seitaro Nishimura<sup>1</sup>, Kazuhiro Noma<sup>1</sup>, Tatsuya Takahashi<sup>1</sup>, Yasushige Takeda<sup>1</sup>, Hijiri Matsumoto<sup>1</sup>, Tomoyoshi Kunitomo<sup>1</sup>, Kento Kawasaki<sup>1</sup>, Masaaki Akai<sup>1</sup>, Teruki Kobayashi<sup>1</sup>, Hajime Kashima<sup>1</sup>, Takuya Kato<sup>1</sup>, Satoru Kikuchi<sup>1</sup>, Toshiaki Ohara<sup>2</sup>, Hiroshi Tazawa<sup>3</sup>, Toshiyoshi Fujiwara<sup>1</sup> (1Department of Gastroenterological Surgery, Okayama University, <sup>2</sup>Department of Pathology & Experimental Medicine, Okayama University, <sup>3</sup>Center for Innovative Clinical Medicine, Hospital, Okayama University)

CAFs を標的にした光免疫療法によるドラッグデリバリー改善効果

 西村 星多郎<sup>1</sup>、野間 和広<sup>1</sup>、高橋 達也<sup>1</sup>、竹田 泰茂<sup>1</sup>、松本 聖<sup>1</sup>、國友 知義<sup>1</sup>、河崎 健人<sup>1</sup>、赤井 正明<sup>1</sup>、小林 照貴<sup>1</sup>、賀島 肇<sup>1</sup>、加藤 卓也<sup>1</sup>、菊地 寛次<sup>1</sup>、大原 利章<sup>2</sup>、田澤 大<sup>3</sup>、藤原 俊義<sup>1</sup> (1岡山大学 消化器外科、2岡山大学 免疫学教室、3岡山大学病院 新医療研究開発センター)

**E-1035 Accumulation of extracellular matrix mediates intracellular adhesion and treatment resistance in pancreatic cancer**

Shuichi Aoki, Minoru Kobayashi, Daisuke Douchi, Taiki Kajiwara, Shimpei Maeda, Akihiro Yamamura, Hideaki Karasawa, Masamichi Mizuma, Hideo Ohtsuka, Shinobu Ohnuma, Michiaki Unno (Tohoku University Graduate School of Medicine)

細胞外マトリックスの蓄積と細胞間接着の増強が膵癌における治療抵抗性を生み出す

青木 修一、小林 実、堂地 大輔、梶原 大輝、前田 晋平、山村 明寛、唐澤 秀明、水間 正道、大塚 英郎、大沼 忍、海野 倫明 (東北大学大学院 消化器外科学分野)

E2 Experimental animal models  
がんモデル動物

Chairperson: Yoshitaka Hippo (Chiba Cancer Ctr. Res. Inst.)  
座長: 筆宝 義隆 (千葉がんセ・研)

- E-1036 Combining SMAC mimetic LCL161 with GEM + CIS therapy inhibits and prevents emergence of multidrug resistance in CCA**  
Sunisa Prasoporn<sup>1,2</sup>, Orawan Suppramote<sup>2,3</sup>, Ben Ponvilawan<sup>2</sup>, Chanette Jamyuang<sup>2</sup>, Jantappapa Chanthercrob<sup>1</sup>, Amphun Chaiboonchoe<sup>1</sup>, Pimkanya Morekrong<sup>1</sup>, Kamonchanok Kongsri<sup>1</sup>, Monthira Suntiparpluacha<sup>1</sup>, Rawisak Chanwar<sup>4</sup>, Krittiya Korphaisarn<sup>5</sup>, Seiji Okada<sup>6</sup>, Somponnat Sampattavanich<sup>1,2</sup>, Siwanon Jirawatnotai<sup>1,2</sup> (<sup>1</sup>SiCORE, Faculty of Med. Siriraj Hosp., Mahidol Univ., <sup>2</sup>Dept. of Pharmacology, Faculty of Med. Siriraj Hosp. Mahidol Univ., <sup>3</sup>Princess Srisavangavadhana College of Med., Chulabhorn Royal Academy, <sup>4</sup>Hepato-Pancreato-Biliary Surg. Unit, Dept. of Surg. Oncology, Natl. Cancer Inst., <sup>5</sup>Dept. of Med., Faculty of Med. Siriraj Hosp. Mahidol Univ., <sup>6</sup>Joint Res. Ctr. for Human Retrovirus Infection, Kumamoto Univ.)
- E-1037 Investigating the role of ASCL1 in neuroblastoma tumorigenesis using zebrafish model**  
Hyoju Kim<sup>1</sup>, Stella Amanda<sup>1</sup>, Tzeking Tan<sup>1</sup>, Madelaine Skolastika<sup>1</sup>, Lu Wang<sup>1</sup>, Takaomi Sanda<sup>1,2</sup> (<sup>1</sup>Cancer Science Institute of Singapore, National University of Singapore, Singapore, <sup>2</sup>Department of Hematology and Oncology, Nagoya City University)
- E-1038 IQGAP3 regulates stomach tissue repair and pre-cancerous metaplasia development**  
Junichi Matsuo<sup>1</sup>, Daisuke Douchi<sup>1,2</sup>, Mitsuhiro Shimura<sup>1,2</sup>, Linda Chuang<sup>1</sup>, Yoshiaki Ito<sup>1</sup> (<sup>1</sup>Cancer Sci. Inst. of Singapore, Natl. Univ. of Singapore, <sup>2</sup>Dept. of Surg., Tohoku Univ. Graduate Sch. of Med.)
- E-1039 Integrative gut microbiome analysis of human and mouse prostate cancer**  
Chisato Wakamori<sup>1</sup>, Marco A. Develasco<sup>1</sup>, Yurie Kura<sup>1</sup>, Kazutoshi Fujita<sup>1</sup>, Kazuko Sakai<sup>1</sup>, Makoto Matsushita<sup>2</sup>, Yasunori Mori<sup>1</sup>, Masahiro Nozawa<sup>1</sup>, Mituhisa Nishimoto<sup>1</sup>, Kazuhiro Yoshimura<sup>1</sup>, Norio Nonomura<sup>2</sup>, Kazuto Nishio<sup>1</sup>, Hirotsugu Uemura<sup>1</sup> (<sup>1</sup>Kindai Univ. Faculty of Med., <sup>2</sup>Osaka University Graduate School of Medicine)  
ヒトおよびマウスの前立腺癌腸内細菌叢の包括的解析について  
若森 千裕<sup>1</sup>、デベラスコ マルコ<sup>1</sup>、倉 由史恵<sup>1</sup>、藤田 和利<sup>1</sup>、坂井 和子<sup>1</sup>、松下 慎<sup>2</sup>、森 康範<sup>1</sup>、野澤 昌弘<sup>1</sup>、西本 光寿<sup>1</sup>、吉村 一宏<sup>1</sup>、野々村 祝夫<sup>2</sup>、西尾 和人<sup>1</sup>、植村 天受<sup>1</sup> (<sup>1</sup>近畿大学医学部、<sup>2</sup>大阪大学医学部大学院医学研究科)
- E-1040 Development of a mouse model for Epstein-Barr virus gastric cancer**  
Junya Arai<sup>1,2</sup>, Yoku Hayakawa<sup>2</sup>, Hiroaki Fujiwara<sup>1</sup>, Mitsuhiro Fujishiro<sup>2</sup> (<sup>1</sup>The Institute of Medical Science, Asahi Life Foundation, <sup>2</sup>Graduate School of Medicine, the University of Tokyo)  
EB ウイルス関連胃癌モデルマウスの作成  
新井 絢也<sup>1,2</sup>、早河 翼<sup>2</sup>、藤原 弘明<sup>1</sup>、藤城 光弘<sup>2</sup> (<sup>1</sup>朝日生命成人病研究所、<sup>2</sup>東大病院消化器内科)
- E-1041 PBRM1/VIMENTIN axis is a critical determinant for tumor grade and metastasis in Pancreatic cancer**  
Munenori Kawai, Akihisa Fukuda, Yuki Nakanishi, Yukiko Hiramatsu, Makoto Sono, Tomonori Masuda, Mayuki Omatsu, Mio Namikawa, Go Yamakawa, Kosuke Iwane, Kenta Mizukoshi, Kei Iimori, Shinnosuke Nakayama, Naoki Aoyama, Takahisa Maruno, Hiroshi Seno (Dept. of Gastroenterology and Hepatology Kyoto Univ.)  
エピジェネティクス調節因子 Pbrm1 は Vimentin の発現制御を介して膵癌の分化度、転移能を制御する  
河相 宗矩、福田 晃久、中西 祐貴、平松 由紀子、藺 誠、益田 朋典、尾松 万悠紀、並川 実桜、山川 剛、岩根 康祐、水越 健太、飯森 啓、中山 真之介、青山 直樹、丸野 貴久、妹尾 浩 (京都大学医学部附属病院 消化器内科)
- E-1042 Wnt ligand-associated malignant progression of gastric cancer in organoid model**  
Hiroko Oshima<sup>1</sup>, Yuichiro Furutani<sup>3</sup>, Mizuho Nakayama<sup>1</sup>, Noriyuki Inaki<sup>3</sup>, Masanobu Oshima<sup>1,2</sup> (<sup>1</sup>Div. Genetics, Cancer Res. Inst., Kanazawa Univ., <sup>2</sup>WPI-Nano LSI, Kanazawa Univ., <sup>3</sup>Dept. Gastrointestinal Surg., Kanazawa Univ.)  
マウス胃がんオルガノイドによる Wnt リガンド依存的な悪性化機構の検討  
大島 浩子<sup>1</sup>、古谷 裕一郎<sup>3</sup>、中山 瑞穂<sup>1</sup>、稲木 紀幸<sup>3</sup>、大島 正伸<sup>1,2</sup> (<sup>1</sup>金沢大・がん研・腫瘍遺伝学、<sup>2</sup>金沢大・ナノ研、<sup>3</sup>金沢大・医・消化器外科)

J2-1 Genetically-engineered animals  
遺伝子改動物

Chairperson: Miwa Tanaka (The Cancer Inst., JFCR)  
座長: 田中 美和 (がん研究会 がん研)

## J-1025 Deletion of Pak1 enhances anti-tumor immunity by the activation of dendritic cells

Kazuhiro Okumura<sup>1</sup>, Takao Morinaga<sup>2</sup>, Sora Tanaka<sup>1</sup>, Keisuke Otoyama<sup>1</sup>, Yurika Tokunaga<sup>1</sup>, Megumi Saito<sup>1</sup>, Kimi Araki<sup>3</sup>, Yuichi Wakabayashi<sup>1</sup> (<sup>1</sup>Div. of Exp. Anim. Res., Chiba Cancer Center Res. Inst., <sup>2</sup>Div. of Cell Therapy, Chiba Cancer Center Res. Inst., <sup>3</sup>Div. of Dev. Genetics, Dev. and Analysis, Univ. Kumamoto)

Pak1 欠損は樹状細胞の活性化によって抗腫瘍免疫を増強する  
奥村 和弘<sup>1</sup>、盛永 敬郎<sup>2</sup>、田中 青空<sup>1</sup>、音山 敬祐<sup>1</sup>、徳永 夕莉香<sup>1</sup>、齋藤 慈<sup>1</sup>、荒木 喜美<sup>3</sup>、若林 雄一<sup>1</sup> (千葉県がんセ 研 実験動物、<sup>2</sup>千葉県がんセ 研 細胞治療、<sup>3</sup>熊本大学 生命資源 疾患モデル)

## J-1026 Hypoxia response pathway controls metabolic shift and tumor development in Xp11.2 translocation renal cell carcinoma

Shintaro Funasaki<sup>1</sup>, Wenjuan Ma<sup>2</sup>, Takanobu Motoshima<sup>3</sup>, Yorifumi Satou<sup>4</sup>, Yuichi Oike<sup>5</sup>, Hisashi Hasumi<sup>6</sup>, Toshio Suda<sup>2</sup>, Tomomi Kamba<sup>3</sup>, Masaya Baba<sup>1</sup> (<sup>1</sup>IRCMS, Cancer Metab. Lab., Kumamoto Univ., <sup>2</sup>IRCMS, Stem Cell Reg. Lab., Kumamoto Univ., <sup>3</sup>Dept. of Urology, Grad. School of Med. Sci., Kumamoto Univ., <sup>4</sup>Dept. Genomics and Transcriptomics, Human Retrovirus Infection Ctr., <sup>5</sup>Dept. Mol. Genetics, Grad. School Med. Sci., Kumamoto Univ., <sup>6</sup>Dept. of Urology, Grad. School of Med., Yokohama City Univ.)

Xp11.2 転座腎細胞癌における低酸素応答経路活性化による発癌メカニズムの解明

舟崎 慎太郎<sup>1</sup>、馬 文娟<sup>2</sup>、元島 崇信<sup>3</sup>、佐藤 賢文<sup>4</sup>、尾池 雄一<sup>5</sup>、連見 壽史<sup>6</sup>、須田 年生<sup>2</sup>、神波 大己<sup>3</sup>、馬場 理也<sup>1</sup> (熊本大・国際先端医学・がん代謝学、<sup>2</sup>熊本大・国際先端医学・幹細胞調節、<sup>3</sup>熊本大・院生命科学部・泌尿器科学、<sup>4</sup>熊本大・ヒトレトロウイルス学、<sup>5</sup>熊本大・院生命科学部・分子遺伝、<sup>6</sup>横浜市大・医学部・泌尿器科学)

## J-1027 Knockdown of FABP4 limit the HFD-associated PCa progression in TRAMP mice

Mingguo Huang, Shintaro Narita, Mizuki Kobayashi, Ryuhei Yamamoto, Kenpei Nara, Kazuyuki Numakura, Mitsuru Saito, Tomonori Habuchi (Akita Univ. Grad. Sch. of Med.)

高脂肪食摂取による前立腺癌進展における FABP4 の役割

黄 明国、成田 伸太郎、小林 瑞貴、山本 竜平、奈良 健平、沼倉 一幸、齋藤 満、羽淵 友則 (秋田大学医学系研究科)

## J-1028 An animal model of pancreatic ductal adenocarcinoma originated from endocrine cells expressing Ppy gene

Yoshio Fujitani, Ofejiro Pereye (Institute for Molecular and Cellular regulation, Gunma University)

内分泌細胞である膵 PP 細胞から膵腺癌を発症する新たな発癌モデルマウスの開発とその意義

藤倉 与士夫、ピーリアイ オフェジロー (群馬大学 生体調節研究所)

## J-1029 Generation and analysis of NRF2-activated esophageal squamous cell carcinoma mouse model

Jun Takahashi<sup>1,2</sup>, Tatsuki Muta<sup>1</sup>, Miu Satoh<sup>1</sup>, Nahoko Yaguchi<sup>1</sup>, Takafumi Suzuki<sup>1</sup>, Shinobu Ohnuma<sup>2</sup>, Takanori Ishida<sup>2</sup>, Michiaki Unno<sup>2</sup>, Takashi Kamei<sup>2</sup>, Masayuki Yamamoto<sup>1</sup> (<sup>1</sup>Biochemistry & Molecular Biology, Tohoku Medical Megabank Organization, <sup>2</sup>Department of Surgery, Tohoku Univ.)

NRF2 活性化型食道扁平上皮癌マウスモデルの確立とその解析

高橋 洵<sup>1,2</sup>、牟田 達紀<sup>1</sup>、佐藤 美羽<sup>1</sup>、矢口 菜穂子<sup>1</sup>、鈴木 隆史<sup>1</sup>、大沼 忍<sup>2</sup>、石田 孝宣<sup>2</sup>、海野 倫明<sup>2</sup>、亀井 尚<sup>2</sup>、山本 雅之<sup>1</sup> (東北メディカル・メガバンク 分子医化学、<sup>2</sup>東北大学病院 総合外科)

## J-1030 Effect of high-fat diet intake on colon tumor development in mice.

Yukari Muranaka<sup>1,2</sup>, Naoko Iida<sup>1</sup>, Yuichi Shiraishi<sup>1</sup>, Haruna Takeda<sup>1</sup> (<sup>1</sup>Natl. Cancer Ctr. Res. Inst., <sup>2</sup>Kitasato Univ.)

高脂肪食摂取による大腸腫瘍形成への影響

村中 柚花理<sup>1,2</sup>、飯田 直子<sup>1</sup>、白石 友一<sup>1</sup>、武田 はるな<sup>1</sup> (国立がん研究センター研究所、<sup>2</sup>北里大学)

E14-1 Gastric cancer, eophageal cancer (1)  
胃がん・食道がん (1)

Chairperson: Hideaki Bando (Department of Gastroenterology and Gastrointestinal Oncology)

座長: 坂東 英明 (国立がん研究センター東病院 消化管内科)

## E-1043 TP53 mutation spectrum of Rwandan gastric cancer differ from the one of Japan, China and Eastern Europe

Augustin Nzitakera<sup>1</sup>, Felix Manirakiza<sup>1</sup>, Rei Ishikawa<sup>1</sup>, Hiroko Natsume<sup>1</sup>, Yuji Iwashita<sup>1</sup>, Hidetaka Yamada<sup>1</sup>, Haruhiko Sugimura<sup>2</sup>, Kazuya Shinmura<sup>1</sup> (<sup>1</sup>Hamamatsu Univ Sch Med, Dept. Tumor Pathol., <sup>2</sup>Sasaki Institute Sasaki Foundation)

ルワンダの胃がんにおける TP53 変異スペクトルは日本、中国、東欧のものとは異なる

ンジタケラ オギシテ<sup>1</sup>、マニラキザ フェリックス<sup>1</sup>、石川 励<sup>1</sup>、夏目 宏子<sup>1</sup>、岩下 雄二<sup>1</sup>、山田 英孝<sup>1</sup>、楳村 春彦<sup>2</sup>、新村 和也<sup>1</sup> (浜松医大 医学部 腫瘍病理、<sup>2</sup>佐々木研究所)

## E-1044 Overexpression of PADI2 and histone citrullination change in gastric cancer

Yoshimitsu Akiyama, Shu Shimada, Shinji Tanaka (Dept. Mol. Oncol., Tokyo Med. & Dentl. Univ.)

胃癌における PADI2 高発現とヒストンシトルリン化異常

秋山 好光、島田 周、田中 真二 (東京医科歯科大・分子腫瘍医学)

## E-1045 MMP9 and IL-8 are induced in ESCC cells by interaction with macrophages and thereby promoting cancer cell invasion.

Shuichi Tsukamoto<sup>1</sup>, Masaki Omori<sup>1,2</sup>, Rikuya Torigoe<sup>1,3</sup>, Hiroki Yokoo<sup>1,3</sup>, Takashi Nakanishi<sup>1,3</sup>, Keitaro Yamanaka<sup>1,4</sup>, Nobuaki Ishihara<sup>1,2</sup>, Yuki Azumi<sup>1,3</sup>, Shoji Miyako<sup>1,3</sup>, Satoshi Urakami<sup>1,5</sup>, Takayuki Kodama<sup>1</sup>, Mari Nishio<sup>1</sup>, Manabu Shigeoka<sup>1</sup>, Yuichiro Koma<sup>1</sup>, Hiroshi Yokozaki<sup>1</sup> (<sup>1</sup>Div. Pathol., Dept. Pathol., Kobe Univ., Grad. Sch. Med., <sup>2</sup>Div. Hepato-Biliary-Pancreatic Surg., Dept. Surg., Kobe Univ., Grad. Sch. Med., <sup>3</sup>Div. Gastro-intestinal Surg., Dept. Surg., Kobe Univ., Grad. Sch. Med., <sup>4</sup>Div. Obstet. Gynecol., Kobe Univ., Grad. Sch. Med., <sup>5</sup>Div. Gastroenterol., Dept. Intern., Kobe Univ., Grad. Sch. Med.)

マクロファージとの相互作用で食道扁平上皮癌細胞に発現誘導される MMP9 と IL-8 は、協調して癌細胞の浸潤を亢進させる

塚本 修一<sup>1</sup>、大森 将貴<sup>1,2</sup>、鳥越 陸矢<sup>1,3</sup>、横尾 拓樹<sup>1,3</sup>、中西 崇<sup>1,3</sup>、山中 啓太郎<sup>1,4</sup>、石原 伸朗<sup>1,2</sup>、安積 佑樹<sup>1,3</sup>、都 鍾智<sup>1,3</sup>、浦上 聡<sup>1,5</sup>、児玉 貴之<sup>1</sup>、西尾 真理<sup>1</sup>、重岡 学<sup>1</sup>、狛 雄一朗<sup>1</sup>、横崎 宏<sup>1</sup> (神戸大・院医・病理学、<sup>2</sup>神戸大・院医・肝胆膵外科学、<sup>3</sup>神戸大・院医・食道胃腸外科学、<sup>4</sup>神戸大・院医・産科婦人科学、<sup>5</sup>神戸大・院医・消化器内科学)

## E-1046 Increase of peritoneal CTLA4+ myeloid cells as a determinant of anti-PD1 resistance in gastrointestinal cancer

Hiroshi Imazeki<sup>1,2,3</sup>, Hiroki Ozawa<sup>1,4</sup>, Hidekazu Hirano<sup>2</sup>, Yamato Ogiwara<sup>1</sup>, Hirokazu Shoji<sup>2</sup>, Narikazu Boku<sup>2,5</sup>, Chie Kudo<sup>1</sup> (<sup>1</sup>Dept. of Immune Med., Natl. Cancer Ctr. Res. Inst., <sup>2</sup>Dept. of Gastrointestinal Med. Oncol., Natl. Cancer Ctr. Hosp., <sup>3</sup>Clin. Trial Promotion Dept., Chiba Cancer Ctr., <sup>4</sup>Dept. of Surg., Keio Univ. Sch. of Med., <sup>5</sup>Dept. of Med. Oncol. and General Med., IMSUT)

消化管がんにおける PD1 治療抵抗性に関わる腹腔内 CTLA4 発現マクロファージ細胞の増加の意義

今関 洋<sup>1,2,3</sup>、小澤 広輝<sup>1,4</sup>、平野 秀和<sup>2</sup>、萩原 大和<sup>1</sup>、庄司 広和<sup>2</sup>、朴成和<sup>2,5</sup>、工藤 千恵<sup>1</sup> (国立がん研究センター研究所 免疫創薬部門、<sup>2</sup>国立がん研究センター中央病院 消化管内科、<sup>3</sup>千葉県がんセンター 治験臨床試験推進部、<sup>4</sup>慶應義塾大学 医学部 外科学教室、<sup>5</sup>東大医学部研究所附属病院 腫瘍・総合内科)

## E-1047 The promising option of At211-labeled anti-FGFR4 antibody on the dissemination of gastric cancer in immunocompetent mice

Komei Kuge<sup>1,2</sup>, Hiroki Masuda<sup>1,2</sup>, Wanying Du<sup>1</sup>, Tomohiko Yasuda<sup>1,3</sup>, Akira Sugiyama<sup>4</sup>, Hiromitsu Haba<sup>2</sup>, Toshifumi Tatsumi<sup>6</sup>, Nobuyoshi Akimitsu<sup>4</sup>, Yoshitaka Kumakura<sup>7</sup>, Hiroshi Yoshida<sup>2</sup>, Yasuyuki Seto<sup>1</sup>, Youichiro Wada<sup>4</sup>, Sachiyo Nomura<sup>1</sup> (<sup>1</sup>Dept. of Gastrointestinal Surg., Grad. Sch. of Med., Tokyo Univ., <sup>2</sup>Dept. of Gastrointestinal & Hepato-Biliary-Pancreatic Surg., Nippon Med. Sch., <sup>3</sup>Dept. of Gastrointestinal Surg., Nippon Med. Sch. Chiba Hokusoh Hospital, <sup>4</sup>Isotope Sci. Center, The Univ. of Tokyo, <sup>5</sup>Nishina Center for Accelerator-based Sci., RIKEN, <sup>6</sup>Grad. Sch. of Pharm. Sci., The Univ. of Tokyo, <sup>7</sup>Dept. of Diagnostic Radiology & Nuclear Med., Saitama Med. Univ.)

胃癌腹膜播種モデルマウスを用いた 211At 標識抗 FGFR4 抗体による放射線免疫療法の有効性

久下 恒明<sup>1,2</sup>、増田 寛喜<sup>1,2</sup>、杜 婉瑩<sup>1</sup>、保田 智彦<sup>1,3</sup>、杉山 暁<sup>4</sup>、羽場 宏光<sup>5</sup>、巽 俊文<sup>6</sup>、秋光 信佳<sup>7</sup>、熊倉 嘉貴<sup>7</sup>、吉田 寛<sup>2</sup>、瀬戸 泰之<sup>1</sup>、和田 洋一郎<sup>4</sup>、野村 幸世<sup>1</sup> (東京大学大学院医学系研究科 消化管外科学、<sup>2</sup>日本医科大学 消化器外科、<sup>3</sup>日本医科大学 千葉北総病院、<sup>4</sup>東

**J14-1 Gastric cancer, eophageal cancer (2)**  
胃がん・食道がん (2)

Chairperson: YASUTOSHI KUBOKI (National Cancer Center Hospital East Department of Experimental Therapeutics)  
座長: 久保木 恭利 (国立がん研究センター東病院)

- J-1031 Development of Non-invasive exosomal miRNA for the identification of peritoneal dissemination in gastric cancer**  
Yuma Wada, Masaaki Nishi, Kozo Yoshikawa, Chie Takasu, Takuya Tokunaga, Toshihiro Nakao, Hideya Kashihara, Toshiaki Yoshimoto, Mitsuo Shimada (Department of Surgery, Tokushima University)  
胃癌腹膜播種特異的なエクソソーム中 miRNA の同定  
和田 佑馬、西 正暁、吉川 幸造、高須 千絵、徳永 卓哉、中尾 寿宏、柏原 秀也、良元 俊昭、島田 光生 (徳島大学 消化器移植外科)
- J-1032 Rab27b, a regulator of exosome secretion, is associated with peritoneal metastases in gastric cancer**  
Takaaki Masuda, Sho Nambara, Qingjiang Hu, Yuki Ozato, Kosuke Hirose, Yoshiki Hiraki, Yuichi Hisamatsu, Koshi Mimori (Dept Surg Kyushu Univ Beppu hospital)  
エクソソーム分泌制御因子 Rab27b と胃がん腹膜播種との関連  
増田 隆明、南原 翔、胡 慶江、大里 祐樹、廣瀬 皓介、平木 嘉樹、久松 雄一、三森 功士 (九州大学 別府病院 外科)
- J-1033 Postoperative thrombocytosis contributes to recurrence and poor outcomes through miR-223 secretion in gastric cancer**  
Keiji Nishibeppu, Shuhei Komatsu, Takuma Ohashi, Taisuke Imamura, Jun Kiuchi, Hajime Kamiya, Hiroshi Arakawa, Ryo Ishida, Hiroki Shimizu, Tomohiro Arita, Hirotaka Konishi, Atsushi Shiozaki, Takeshi Kubota, Hitoshi Fujiwara, Eigo Otsuji (Dept. Digestive Surg., Kyoto Pref. Univ. Med)  
胃癌術後血小板増多は血小板由来分泌型 miR-223 を介して再発に関連する  
西別府 敬士、小松 周平、大橋 拓馬、今村 泰輔、木内 純、神谷 肇、荒川 宏、石田 怜、清水 浩紀、有田 智洋、小西 博貴、塩崎 敦、窪田 健、藤原 斉、大辻 英吾 (京都府立医科大学 消化器外科)
- J-1034 CRP-induced soluble CTLA4 is a determinant of anti-PD1 resistance in gastrointestinal cancer**  
Kotoe Oshima<sup>1,2,3</sup>, Hirokazu Shoji<sup>2</sup>, Narikazu Boku<sup>1,4</sup>, Chie Kudo<sup>1</sup> (1Dept. of Immune Medicine, National Cancer Ctr. Res. Inst., 2Dept. of Gastrointestinal Medical Oncology, National Cancer Ctr. Hosp., 3Dept. of Gastrointestinal Oncology, Shizuoka Cancer Ctr., 4Dept. of Medical Oncology and General Medicine, IMSUT Hosp.)  
CRP が誘導する腫瘍由来可溶性 CTLA4 の増加は PD1 治療の不奏効を招く  
大嶋 琴絵<sup>1,2,3</sup>、庄司 広和<sup>2</sup>、朴 成和<sup>1,4</sup>、工藤 千恵<sup>1</sup> (1国立がん研究センター研究所 免疫創薬部門、2国立がん研究センター中央病院 消化器内科、3静岡県立静岡がんセンター 消化器内科、4東大医科学研究所 附属病院 腫瘍・総合内科)
- J-1035 Risk stratification of primary GC by integrating clinicopathological factors and DNA methylation in the gastric mucosa**  
Genki Usui<sup>1,2,3</sup>, Tomoka Okada<sup>1</sup>, Mizuki Minami<sup>1,4</sup>, Masaki Fukuyo<sup>1</sup>, Bahiyar Rahmutulla<sup>1</sup>, Motoaki Seki<sup>1</sup>, Eiji Sakai<sup>5,6</sup>, Keisuke Matsusaka<sup>1,4</sup>, Tetsuo Ushiku<sup>2</sup>, Atsushi Kaneda<sup>1</sup> (1Dept. Mol Oncol, Grad. Sch. Med., Chiba Univ., 2Dept. Path., Grad. Sch. Med., The Univ. Tokyo, 3Dept. Diagn. Pathol., NTT Med. Ctr. Tokyo, 4Dept. Path., Chiba Univ. Hosp., 5Dept. Gastroenterol., NTT Med. Ctr. Tokyo, 6Dept. Gastroenterol., Yokohama Sakae Kyosai Hosp.)  
臨床病理学因子と胃粘膜に蓄積した DNA メチル化を統合した一次胃癌のリスク層別化  
白井 源紀<sup>1,2,3</sup>、岡田 朋香<sup>1</sup>、南 瑞樹<sup>1,4</sup>、福世 真樹<sup>1</sup>、ラヒムトラ バハテヤリ<sup>1</sup>、関 元昭<sup>1</sup>、酒井 英嗣<sup>5,6</sup>、松坂 恵介<sup>1,4</sup>、牛久 哲男<sup>2</sup>、金田 篤志<sup>1</sup> (1千葉大学大学院 医学研究院 分子腫瘍学、2東京大学大学院 人体病理学・病理診断学、3N T T 東日本関東病院 病理診断科、4千葉大学医学部附属病院 病理診断科、5N T T 東日本関東病院 消化器内科、6横浜栄共済病院 消化器内科)
- J-1036 Evolutionary Biology of esophageal squamous cell carcinoma**  
Akira Yokoyama<sup>1</sup>, Tomonori Hirano<sup>2</sup>, Yuudai Ishida<sup>1</sup>, Osamu Kikuchi<sup>1</sup>, Yasuhide Takeuchi<sup>3</sup>, Sachiko Minamiguchi<sup>3</sup>, Seishi Ogawa<sup>2</sup>, Manabu Muto<sup>1</sup>, Nobuyuki Kakiuchi<sup>1</sup> (1Department of Therapeutic Oncology, Kyoto University, 2Department of Pathology and Tumor Biology, Kyoto University, 3Department of Diagnostic Pathology, Kyoto University, 4Kyoto University Hakubi project)  
食道扁平上皮癌の生物進化  
横山 顕礼<sup>1</sup>、平野 智紀<sup>2</sup>、石田 雄大<sup>1</sup>、菊池 理<sup>1</sup>、竹内 康英<sup>3</sup>、南口 早智子<sup>3</sup>、小川 誠司<sup>2</sup>、武藤 学<sup>1</sup>、垣内 伸之<sup>4</sup> (1京都大学 腫瘍内科、2京都大学 腫瘍生物学、3京都大学 病理診断科、4京都大学 白眉センター)

京大学 アイソトープ総合センター、<sup>5</sup>理化学研究所 仁科加速器科学センター、<sup>6</sup>東京大学大学院 薬学系研究科、<sup>7</sup>埼玉医科大学 放射線科)

**E-1048 Suppression of carcinomatosis by advanced gastric cancer targeted by glycan-specific ADC**

Eisaku Kondo<sup>1</sup>, Hidekazu Iioka<sup>2</sup>, Ken Saito<sup>3</sup>, Ayaka Mitsui<sup>2</sup>, Yoshihiro Kawasaki<sup>1</sup> (1Div Tumor Pathology NIR-PIT Research Inst Kansai Med Univ, 2Dept Molecular Pathology Niigata Univ Med School)

糖鎖特異的抗体医薬による胃癌腹膜播種に対する抗腫瘍効果

近藤 英作<sup>1</sup>、飯岡 英和<sup>2</sup>、齋藤 憲<sup>2</sup>、三ツ井 彩花<sup>2</sup>、川崎 善博<sup>1</sup> (1関西医大 光免疫医学研究所 腫瘍病理、2新潟大学 医学部 分子病理)

## Introduction Courses for Current Cancer Research Bioinformatics Hands-On Series

Room 14 Sep. 21 (Thu.) 9:00-10:15

J

### IC1 Introduction to somatic mutation analysis 1 君にもできるゲノミクス：体細胞変異解析入門 1

IC1 **Introduction to somatic mutation analysis 1**  
Toshihide Ueno (National Cancer Center Research Institute)  
君にもできるゲノミクス：体細胞変異解析入門 1  
上野 敏秀 (国立がん研究センター研究所)

## Introduction Courses for Current Cancer Research Bioinformatics Hands-On Series

Room 14 Sep. 21 (Thu.) 10:15-11:30

J

### IC2 Introduction to somatic mutation analysis 2 君にもできるゲノミクス：体細胞変異解析入門 2

IC2 **Introduction to somatic mutation analysis 2**  
Toshihide Ueno (National Cancer Center Research Institute)  
君にもできるゲノミクス：体細胞変異解析入門 2  
上野 敏秀 (国立がん研究センター研究所)

## Special Symposia/JCA-JSI-JACI Joint Symposium

Room 15 Sep. 21 (Thu.) 9:00-11:30

E

### SS1 Future of cancer immunology and immunotherapy 腫瘍免疫学から考えるがん免疫療法の未来

Chairpersons: Shin-ichiro Fujii (RIKEN IMS, Lab. for Immunotherapy)  
Toshihiko Torigoe (Dept. Path., Sapporo Med. Univ.)  
Hiroyoshi Nishikawa (Div. Cancer Immunol., Res. Inst., Natl. Cancer Ctr.)

座長：藤井 眞一郎 (理研・生命医学研セ・免疫細胞治療)  
鳥越 俊彦 (札幌医大・医・病理学第一講座)  
西川 博嘉 (国立がん研セ・研・腫瘍免疫研究分野)

With the successes of immune checkpoint inhibitors, immunotherapy has become one of the standard strategies in cancer therapies for various types of cancer. However, the clinical efficacy is still limited, and more than half of patients failed to respond to cancer immunotherapies. Therefore, it is urgently required to identify predictive biomarkers that can stratify responders from non-responders and to develop more effective cancer immunotherapeutic strategies based on basic research. Thus, in this joint symposium of 3 academic societies (JCA, JSI, and JACI), we will address various obstacles to successful cancer immunotherapy; Understanding immunosuppressive components in the tumor microenvironment which hamper the induction of effective antitumor immunity is a key issue for the future of cancer immunotherapy tailored to each patient. We hope our discussion will help progress toward the next generation of cancer immunotherapy.

#### SS1-1 Therapeutic cellular vaccine eliciting multifunctional immunity against cancer

Shinichiro Fujii<sup>1,2</sup> (<sup>1</sup>Lab. for Immunotherapy, RIKEN Center for Integrative Medical Sciences, <sup>2</sup>RIKEN Drug discovery and Medical Technology, aAVC TR Unit)

多機能性免疫を誘導する治療型がんワクチン細胞療法  
藤井 眞一郎<sup>1,2</sup> (理研・生命医学研究・免疫細胞治療、<sup>2</sup>理研・創薬医療技術基盤・aAVC 基盤)

#### SS1-2 Importance of regulatory T cell-targeted therapy

Yuka Maeda (Div. of Cancer Immunology, NCC)  
制御性T細胞を標的としたがん免疫療法の重要性  
前田 優香 (国がん・研・腫瘍免疫)

#### SS1-3 Rapid identification of immunogenic neoantigens using surrogate immunopeptidomes

Takayuki Kanaseki<sup>1,2</sup> (<sup>1</sup>Department of Pathology, Sapporo Medical University, <sup>2</sup>Joint Research Center for Immunoproteogenomics, Sapporo Medical University)

免疫プロテオゲノミクスによる迅速なネオアンチゲン同定技術  
金関 貴幸<sup>1,2</sup> (札幌医大・病理学第一講座、<sup>2</sup>同・免疫プロテオゲノミクス共同研究拠点)

#### SS1-4 Functional decoding of intratumoral T cell repertoires through genetic screens

Wouter Schepfer, Ton Schumacher (Dept of Molecular Oncology and Immunology, The Netherlands Cancer Institute)

#### SS1-5 Dendritic cell contribution to the development of tertiary lymphoid structures (TLSs) in cancer

Miriam Merad, Raphaël Mattiuz, Jessica Le Berichel, Abishek Vaidya, Romain Donné, Pauline Hamon, Erika Nemeth, Leanna Troncoso, Amanda Reid, Simon Goldstein, Meriem Belabed, Raphaël Merand, Samarth Hegde, Clotilde Hennequin, Matthew D. Park, Sinem Ozbey, Sacha Gnjatich, Amaia Lujambio, Michael Schotsaert, Nikhil S. Joshi, Thomas U. Marron, Alice O. Kamphorst (Icahn School of Medicine at Mount Sinai)

#### SS1-6 PERSONALIZED CANCER VACCINES - UPDATES

Catherine J. Wu (Dana-Farber Cancer Institute, Harvard Medical School)



S5

**New era in cancer biology to understand complex metastasis**

複雑な転移機構に迫る新しいがん生物学

Chairpersons: Masanobu Oshima (Kanazawa Univ.)  
Atsushi Enomoto (Nagoya Univ. Grad. Sch. of Med.)座長: 大島 正伸 (金沢大)  
榎本 篤 (名古屋大・院医・腫瘍病理学)

Most of cancer-related death is caused by metastasis, thus it is important to understand the molecular mechanism of metastasis to develop novel therapeutic strategy. Recent genome analysis demonstrated that accumulation of driver mutations is confirmed in the primary cancer tissues, and the metastasis-specific genetic alterations are rarely found. On the other hand, there have been shown to be novel biological mechanisms that include extracellular vesicle-led premetastatic niche generation, education of tumor-promoting stromal cells for survival of disseminated tumor cells, cell cluster migration and polyclonal metastasis, and stemness-regulated dormancy of the drug-resistant cells, etc. In this symposium, we would like to discuss about such novel biological mechanisms to expand our knowledge about metastasis development.

**S5-1 Modeling of colorectal cancer development and metastasis with organoids (provisional)**

Hugo J G Snippert (UMC Utrecht &amp; Oncode Institute)

**S5-2 Role of exosomes in cancer metastasis and biomarker potential**

Ayuko Hoshino (RCASTA, the University of Tokyo)

エクソソームによる癌転移機構と診断マーカーの探索  
星野 歩子 (東京大学・先端科学技術研究センター)**S5-3 Induction of mGluR1 expression and enhanced dependence on its signalling in lung cancer brain metastasis**

Eishu Hirata (Tumour Cell Biology and Bioimaging, Cancer Research Institute, Kanazawa Univ.)

肺がん脳転移における mGluR1 の発現誘導と依存性増強  
平田 英周 (金沢大・がん研・腫瘍細胞生物学)**S5-4 Potential role of RUNX3 in metastasis**Yoshiaki Ito<sup>1</sup>, Kazuto Suda<sup>2</sup>, Daisuke Douchi<sup>3</sup>, Junichi Matsuo<sup>1</sup>, Linda S. Chuang<sup>1</sup> (<sup>1</sup>Cancer Science Institute of Singapore, National University of Singapore, <sup>2</sup>Juntendo University School of Medicine, Tokyo, Japan., <sup>3</sup>Tohoku University Graduate School of Medicine, Sendai, Japan)**S5-5 Signaling pathways essential for stemness, metastasis, and drug resistance in colorectal cancer cells**Masahiro Aoki<sup>1,2</sup>, Makoto Taketo<sup>3</sup>, Teruaki Fujishita<sup>1</sup> (<sup>1</sup>Div. Pathophysiol., Aichi Cancer Ctr. Res. Inst., <sup>2</sup>Div. Cancer Physiol., Nagoya Univ. Grad. Sch. Med., <sup>3</sup>Colon Cancer Pj, KUHP-iACT, Kyoto Univ.)

大腸がんの幹細胞性、転移能、抗がん剤抵抗性に寄与するシグナル経路の解明

青木 正博<sup>1,2</sup>、武藤 誠<sup>3</sup>、藤下 晃章<sup>1</sup> (<sup>1</sup>愛知がんセ・研・がん病態生理、<sup>2</sup>名古屋大・医・がん病態生理、<sup>3</sup>京大病院・臨研セ・大腸がん P)**S5-6 Tumor-stromal interactions facilitate polyclonal metastasis**Sauyee Kok<sup>1</sup>, Hiroko Oshima<sup>1,2</sup>, Mizuho Nakayama<sup>1,2</sup>, Masanobu Oshima<sup>1,2</sup> (<sup>1</sup>Div. Genetics, Cancer Res. Inst, Kanazawa Univ, <sup>2</sup>WPI-Nano LSI, Kanazawa Univ)

IAL

**JCA International Award Lecture**

JCA インターナショナルアワード受賞講演

Chairperson: Hideyuki Saya (Cancer Ctr., Fujita Health Univ.)  
座長: 佐谷 秀行 (藤田医大・がん医療研究セ)

IAL

**Discovery and elucidation of the role of receptor tyrosine kinase family and contribution to fostering young cancer researchers in Asia - Marker - Guided Effective Therapy (MGET) : targeted and immune checkpoint therapies -**

Mien-Chie Hung (President, China Medical University Taichung, Taiwan)

**Cancer Science Young Scientists Award Lectures**

YSA

**Cancer Science Young Scientists Award Lectures**

Cancer Science ヤングサイエンティストアワード受賞講演

Chairperson: Yutaka Kawakami (Internatl. Univ. of Health & Welfare)  
座長: 河上 裕 (国際医療福祉大・医)**YSA-1 Elucidation of the progression mechanism in renal cell carcinoma via ELOVL5**

Satoshi Nitta, Shuya Kandori, Shotaro Sakka, Hiroyuki Nishiyama (Dept. Uro., Fac. Med., Tsukuba. Univ.)

**ELOVL5 による腎癌の進展メカニズムの解明**

新田 聡、神鳥 周也、目 翔太郎、西山 博之 (筑波大学医学医療系腎泌尿器外科)

**YSA-2 KRAS variant allele frequency associates with survival of patients with pancreatic cancer**Tatsunori Suzuki<sup>1,8</sup>, Yohei Masugi<sup>2,8</sup>, Manabu Takamatsu<sup>3,4,8</sup>, Tsuyoshi Hamada<sup>1,5,8</sup>, Mariko Tanaka<sup>6,8</sup>, Akiko Kunita<sup>6,8</sup>, Yutaka Nakano<sup>7,8</sup>, Keisuke Tateishi<sup>1,8</sup>, Kazuhiko Koike<sup>1,8</sup>, Tetsuo Ushiku<sup>6,8</sup>, Michiie Sakamoto<sup>2,8</sup>, Kengo Takeuchi<sup>1,3,4,8</sup>, Minoru Kitago<sup>7,8</sup>, Mitsuhiro Fujishiro<sup>1,8</sup> (<sup>1</sup>Dept. Gastroenterol., Grad. Sch. Med., Univ. Tokyo, <sup>2</sup>Dept. Path., Keio Univ. Sch. Med., <sup>3</sup>Div. Path., Cancer Inst. JFCR, <sup>4</sup>Dept. Path., Cancer Inst. Hosp. JFCR, <sup>5</sup>Dept. Hepato-Biliary-Pancreatic Med., Cancer Inst. Hosp. JFCR, <sup>6</sup>Dept. Path., Grad. Sch. Med., Univ. Tokyo, <sup>7</sup>Dept. Surg., Keio Univ. Sch. Med., <sup>8</sup>The GTK Pancreatic Cancer Study Group)**膵癌における KRAS variant allele frequency と予後との関連についての検討**鈴木 辰典<sup>1,8</sup>、眞杉 洋平<sup>2,8</sup>、高松 学<sup>3,4,8</sup>、濱田 毅<sup>1,5,8</sup>、田中 麻理子<sup>6,8</sup>、国田 朱子<sup>6,8</sup>、中野 容<sup>7,8</sup>、立石 敬介<sup>1,8</sup>、小池 和彦<sup>1,8</sup>、牛久 哲男<sup>6,8</sup>、坂元 亨宇<sup>2,8</sup>、竹内 賢吾<sup>3,4,8</sup>、北郷 実<sup>7,8</sup>、藤城 光弘<sup>1,8</sup> (<sup>1</sup>東京大・医・消化器内科、<sup>2</sup>慶應大・医・病理学教室、<sup>3</sup>(公財)がん研・研・病理部、<sup>4</sup>(公財)がん研・有明病院・病理部、<sup>5</sup>(公財)がん研・有明病院・肝・胆・膵内科、<sup>6</sup>東京大・医・人体病理学、<sup>7</sup>慶應大・医・外科学教室、<sup>8</sup>The GTK Pancreatic Cancer Study Group)**YSA-3 CHIP-associated mutant ASXL1 in blood cells promotes solid tumor progression**Xiaoxiao Liu<sup>1</sup>, Susumu Goyama<sup>1</sup>, Toshio Kitamura<sup>2</sup> (<sup>1</sup>Div. of Mol. Oncology, CBMS, Frontier Sci., UTokyo, <sup>2</sup>Inst. of Biomed. Res. Innovation,,FBR)**YSA-4 The oral bacterium Streptococcus mutans promotes tumor metastasis by inducing vascular inflammation**Li Yu<sup>1</sup>, Nako Maishi<sup>1</sup>, Erika Akahori<sup>1,2</sup>, Akira Hasebe<sup>3</sup>, Ryo Takeda<sup>1,2</sup>, Aya Matsuda<sup>1</sup>, Yasuhiro Hida<sup>4</sup>, Jin M. Nam<sup>5</sup>, Yasuhito Onodera<sup>5</sup>, Yoshimasa Kitagawa<sup>3</sup>, Kyoko Hida<sup>1</sup> (<sup>1</sup>Vascular Biol. & Mol. Pathol., Hokkaido Univ., <sup>2</sup>Oral Diagnosis & Med., Hokkaido Univ., <sup>3</sup>Oral Mol. Microbiology, Hokkaido Univ., <sup>4</sup>Dept. of Advanced Robotic and Endoscopic Surg., Fujita Health Univ., <sup>5</sup>GCB, Faculty of Med., Hokkaido Univ.)

# Luncheon Seminars, Sep. 21 (Thu.) 11:50-12:40

Room 2

LS01

KONICA MINOLTA REALM, INC.

コニカミノルタ REALM 株式会社

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## The beginning of next generation comprehensive genomic profiling.

Shinji Kohsaka (Division of Cellular Signaling, National Cancer Center Research Institute)

Chair: Hiroyuki Aburatani (Genome Science & Medicine Laboratory, Research Center for Advanced Science and Technology, The University of Tokyo)

### 次世代 CGP 検査の幕明け

高阪 真路 (国立がん研究センター研究所 細胞情報学分野)

座長: 油谷 浩幸 (東京大学先端科学技術研究センター)

Room 3

LS02

Thermo Fisher Scientific

サーモフィッシャーサイエンティフィック

L O

## The Frontiers of Cancer Genome Medicine

### 1) Current Status and Prospects of Lung Cancer Genetic Testing

### 2) To optimize the utilization of comprehensive genome profiling

1) Shingo Matsumoto (Department of Thoracic Oncology, National Cancer Center Hospital East)

2) Manabu Mutou (Department of Therapeutic Oncology, Graduate School of Medicine, Kyoto University)

Chair: Koichi Goto (Department of Thoracic Oncology, National Cancer Center Hospital East)

### がんゲノム医療の最前線

#### 1) 肺癌遺伝子検査の現状と展望

#### 2) がん遺伝子パネル検査をもっと活用するために

1) 松本 慎吾 (国立がん研究センター東病院 呼吸器内科)

2) 武藤 学 (京都大学大学院医学研究科 腫瘍薬物治療学講座)

座長: 後藤 功一 (国立がん研究センター東病院 呼吸器内科)

Room 4

LS03

Crown Bioscience & MBL

株式会社 Crown Bioscience & MBL

L O

## Immuno-oncology: integrated preclinical approaches for biologics and cell therapies development

Ludovic Bourre (Vice President, Research & Innovation at Crown Bioscience)

Chair: Katsuomi Ichikawa (Crown Bioscience & MBL)

### がん免疫: バイオ医薬品および細胞療法の開発のための統合型前臨床アプローチ

Bourre Ludovic (Vice President, Research & Innovation at Crown Bioscience)

座長: 市川 克臣 (株式会社 Crown Bioscience & MBL)

Room 5

LS04

NanoString Technologies

ナノストリング・テクノロジーズ

L O

## Elucidation of cancer-specific mechanisms by high-plex spatial single-cell genomics analysis

### 1) Therapeutic remodeling of pancreatic cancer uncovered by single-cell spatial transcriptomics and optimal transport analysis

### 2) Spatial Genomics Revealed Regulation of Gastric Mucosa

1) William Hwang (Harvard Medical School & Massachusetts General Hospital Cancer Center)

2) Shunpei Ishikawa (The University of Tokyo & NCC-EPOC)

Chair: Shunpei Ishikawa (The University of Tokyo & NCC-EPOC)

### 高プレックス空間シングルセルゲノミクス解析によるがんのメカニズム解明

#### 1) Therapeutic remodeling of pancreatic cancer uncovered by single-cell spatial transcriptomics and optimal transport analysis

#### 2) 空間ゲノミクスから見たヒト胃粘膜の制御

1) William Hwang (Harvard Medical School & Massachusetts General Hospital Cancer Center)

2) 石川 俊平 (東京大学大学院医学系研究科 衛生学教室 / 国立がん研究センター先端医療開発センター臨床腫瘍病理分野)

座長: 石川 俊平 (東京大学大学院医学系研究科 衛生学教室 / 国立がん研究センター先端医療開発センター臨床腫瘍病理分野)

Room 6

LS05

Illumina K.K.

イルミナ株式会社

O

## Exploring novel genetic aberrations using short-read sequencing

Hiromichi Suzuki (Division of Brain Tumor Translational Research, National Cancer Center Research Institute)

Chair: Yutaka Suzuki (Graduate School of Frontier Sciences, The University of Tokyo)

### ショートリードシーケンスの応用による新規遺伝子異常の発見

鈴木 啓道 (国立がん研究センター研究所 脳腫瘍連携研究分野)

座長: 鈴木 穰 (東京大学大学院新領域創成科学研究科)

Room 7

LS06

Eisai Co., Ltd.

エーザイ株式会社

## Revolution of the Understanding of Malignant Lymphoma through a Data Science Approach

Mamiko Sakata-Yanagimoto (Department of Hematology, Institute of Medicine, University of Tsukuba)

Chair: Koichi Akashi (Department of Medicine and Biosystemic Science, Graduate School of Medical Science, Kyushu University)

### データサイエンスによる悪性リンパ腫の病態理解の革新を描く

坂田 (柳元) 麻美子 (筑波大学 医学医療系血液内科)

座長: 赤司 浩一 (九州大学大学院医学研究院 病態修復内科学 (第一内科))

## Room 8

LS07

Miyarisan Pharmaceutical Co., Ltd.  
ミヤリサン製薬株式会社

L

## Attempts to overcome resistance to cancer immunotherapy

HIROYOSHI NISHIKAWA (Division of Cancer Immunology, Research Institute/Exploratory Oncology Research &amp; Clinical Trial Center (EPOC), National Cancer Center, Department of Immunology, Nagoya University Graduate School of Medicine)

Chair: KAWAKAMI YUTAKA (Department of Immunology, Graduate School of Medicine, International University of Health and Welfare)

## がん免疫療法の抵抗性克服に向けた試み

西川 博嘉 (名古屋大学大学院医学系研究科 微生物・免疫学講座 分子細胞免疫学 / 国立がん研究センター 研究所 腫瘍免疫研究分野 / 先端医療開発センター 免疫 TR 分野)

座長: 河上 裕 (国際医療福祉大学 大学院医学研究科 医学専攻 免疫学)

## Room 9

LS08

DAIICHI SANKYO COMPANY, LIMITED  
第一三共株式会社

## ADC is new platform as molecular target therapy ?

Toshihiko Doi (Exploratory Oncology Research &amp; Clinical Trial Center, National Cancer Center)

Chair: Koji Kono (Department of Gastrointestinal Tract Surgery, Fukushima Medical University)

## ADCは新たな分子標的治療プラットフォームとなるか?

土井 俊彦 (国立がん研究センター 先端医療開発センター)

座長: 河野 浩二 (福島県立医科大学医学部消化管外科学講座)

## Room 11

LS09

CHUGAI PHARMACEUTICAL CO., LTD.  
中外製薬株式会社

## Molecular Biology and Treatment Strategies of ALK/ROS1-Positive Lung Cancer

Takaaki Sasaki (First Department of Internal Medicine, Respiratory Medicine, Cancer Genome Medical Department, Asahikawa Medical University)

Chair: Makoto Nishio (Department of Thoracic Medical Oncology, Cancer Institute Hospital, Japanese Foundation for Cancer Research)

## ALK/ROS1 陽性肺癌の分子生物学と治療戦略

佐々木 高明 (旭川医科大学病院 第一内科 (学内) 呼吸器内科/がん遺伝子診療部)

座長: 西尾 誠人 (がん研究会有明病院 呼吸器センター/呼吸器内科)

## Room 12

LS10

Leica Microsystems K.K.  
ライカマイクロシステムズ株式会社

## Spatial Proteomics Analysis and Multiplex Imaging Solution for Oncology

- 1) New technologies and Spatial Proteomics Analysis with LMD
- 2) Cell DIVE Multiplex Imaging Solution for Precision Oncology

- 1) Nobuhide Tsurumaki (Leica Microsystems K.K.)
- 2) Toshiyuki Hatano (Leica Microsystems K.K.)

Chair: Shintaro Tanaka (Leica Microsystems K.K.)

## がん研究のための空間プロテオミクス解析とマルチプレックスイメージングソリューション

- 1) LMDを使った最新技術の紹介と、空間プロテオミクス解析の可能性
- 2) がん研究のためのマルチプレックスイメージングソリューション Cell DIVE

- 1) 鶴巻 宣秀 (ライカマイクロシステムズ株式会社)
- 2) 波田野 俊之 (ライカマイクロシステムズ株式会社)

座長: 田中 晋太郎 (ライカマイクロシステムズ株式会社)

## Room 13

LS11

TOMY DIGITAL BIOLOGY CO., LTD.  
トミーデジタルバイオロジー株式会社

## Advent of long-read sequencing for cancer transcriptome analysis

Yosuke Tanaka (National Cancer Center Research Institute, Division of Cellular Signaling)

Chair: Yasuhiro Murakawa (Kyoto University Institute for the Advanced Study of Human Biology, Murakawa group)

## 高精度ロングリードシーケンスを用いたがんトランスクリプトーム解析

田中 庸介 (国立がん研究センター 研究所 細胞情報学分野)

座長: 村川 泰裕 (京都大学 高等研究院 ヒト生物学高等研究拠点 村川グループ)

## Room 14

LS12

Merck Biopharma Co., Ltd.  
メルクバイオフーマ株式会社

L

## Next generation challenges for Therapy Development: Tumor Signaling Pathways and Microenvironments

- 1) Drug development targeting tumor microenvironment using multiomics led by SCRUM-Japan
- 2) How can we conquer the MAPK Signal Pathway disorders? ~Tumor Agnostic perspectives~

- 1) Yoshiaki Nakamura (International Research Promotion Office, National Cancer Center Hospital East)
- 2) Hiromichi Ebi (Division of Molecular Therapeutics, Aichi Cancer Center Research Institute)

Chair: Seiji Yano (Department of Respiratory Medicine, Faculty of Medicine, Institute of Medical Pharmaceutical, and Health Sciences, Kanazawa University)

Chair: Seiji Yano (Department of Respiratory Medicine, Faculty of Medicine, Institute of Medical Pharmaceutical, and Health Sciences, Kanazawa University)

## 新時代における治療開発への挑戦~がん細胞におけるシグナル伝達経路と微小環境~

- 1) SCRUM-Japanが主導するマルチオミクスアプローチと腫瘍微小環境の治療開発への応用
- 2) 腫瘍内 MAPK シグナル伝達異常と治療開発~臓器横断的な視点から~

- 1) 中村 能章 (国立がん研究センター 東病院 国際研究推進室)
- 2) 衣斐 寛倫 (愛知県がんセンターがん標的治療 TR 分野)

座長: 矢野 聖二 (金沢大学医薬保健研究域医学系呼吸器内科学)

## Special Events

Room 1	Sep. 21 (Thu.) 13:40-15:40	E
SE1	Young Plenary Symposium	

Chairpersons: Takashi Kohno (C-CAT, Natl. Cancer Ctr.)  
Hiroyoshi Nishikawa (Div. Cancer Immunol., Res. Inst., Natl. Cancer Ctr.)

座長：河野 隆志 (国立がん研セ・がんゲノム情報管理セ)  
西川 博嘉 (国立がん研セ・研・腫瘍免疫研究分野)

The first author (a young researcher) of an outstanding original paper will be selected by the program committee members to give an oral presentation on the paper and its subsequent development at the main venue of the conference.

### SE1-1 Single-cell analysis identifies the activation program of regulatory T cells in the tumor microenvironment

Kota Itohashi (Div. Cancer Immunol., Res. Inst. /EPOC, Natl. Cancer Ctr.)

腫瘍局所における制御性T細胞の活性化メカニズムの解明  
板橋 耕太 (国立がん研究センター 腫瘍免疫研究分野)

### SE1-2 The immune surveillance mechanism of cellular senescence through immune checkpoint molecule PD-L1

Tehwei Wang<sup>1,2</sup>, Yoshikazu Johmura<sup>3</sup>, Makoto Nakanishi<sup>1</sup> (1)Division of Cancer Cell Biology, IMSUT, (2)Division of Cancer and Senescence Biology, KU CRI)

### SE1-3 Single-cell survey reveals minor cell subsets in lymphoma microenvironment

Yoshiaki Abe<sup>1,2</sup>, Junko Zenkoh<sup>3</sup>, Manabu Fujisawa<sup>4</sup>, Hiroaki Miyoshi<sup>5</sup>, Yasuhito Suehara<sup>1,2</sup>, Hiroko Bando<sup>6</sup>, Ayako Suzuki<sup>3</sup>, Koichi Ohshima<sup>3</sup>, Tatsuya Oda<sup>7</sup>, Kosei Matsue<sup>8</sup>, Yutaka Suzuki<sup>3</sup>, Shigeru Chiba<sup>1,2</sup>, Mamiko Sakata<sup>1,2,9</sup> (1)Hematology Dept., Tsukuba Univ., (2)Hematology Dept., Tsukuba Univ. Hospital, (3)Computational Biology and Medical Sciences, Tokyo Univ., (4)Centre for Lymphoid Cancer, British Columbia Cancer, (5)Pathology Dept., Sch. Med., Kurume Univ., (6)Breast and Endocrine Surgery Dept., Tsukuba Univ., (7)Gastrointestinal and Hepato-Biliary-Pancreatic Surgery Dept., Tsukuba Univ., (8)Hematology/Oncology Dept., Kameda Medical Center, (9)Transborder Medical Research Center, Tsukuba Univ.)

一細胞解析によるリンパ腫微小環境マイナーサブセットの同定  
安部 佳亮<sup>1,2</sup>、善光 純子<sup>3</sup>、藤澤 学<sup>4</sup>、三好 寛明<sup>5</sup>、末原 泰人<sup>1,2</sup>、坂東 裕子<sup>6</sup>、鈴木 絢子<sup>3</sup>、大島 孝一<sup>5</sup>、小田 竜也<sup>7</sup>、末永 孝生<sup>8</sup>、鈴木 穰<sup>3</sup>、千葉 滋<sup>1,2</sup>、坂田 (柳) 麻実子<sup>1,2,9</sup> (1)筑波大学 医学医療系 血液内科、(2)筑波大学附属病院 血液内科、(3)東京大学 メディカル情報生命専攻、(4)プリティッシュ・コロンビアがん研究所、(5)久留米大学 医学部 病理学講座、(6)筑波大学 乳腺甲状腺内分泌外科、(7)筑波大学 医学医療系 消化器外科、(8)亀田総合病院 血液腫瘍内科、(9)筑波大学トランスボーダー医学研究センター)

### SE1-4 Cell matrix interface regulates dormancy in human colon cancer stem cells

Yuki Ohta, Masayuki Fujii, Toshiro Sato (Department of Medical Chemistry, Keio University School of Medicine)

細胞-マトリクス界面が大腸がん幹細胞の休眠を制御する  
太田 悠木、藤井 正幸、佐藤 俊朗 (慶應義塾大学医学部医化学教室)

### SE1-5 Molecular residual disease and efficacy of adjuvant chemotherapy in patients with colorectal cancer

Daisuke Kotani<sup>1</sup>, Yoshiaki Nakamura<sup>1</sup>, Hideaki Bando<sup>1</sup>, Takayuki Yoshino<sup>1</sup>, Eiji Oki<sup>2</sup> (1)Dept. Gastrointestinal Oncol., National Cancer Center Hospital East, (2)Dept. Surgery and Science, Grad School Med., Kyushu University)

大腸癌術期における血中循環腫瘍 DNA の有用性  
小谷 大輔<sup>1</sup>、中村 能章<sup>1</sup>、坂東 英明<sup>1</sup>、吉野 孝之<sup>1</sup>、沖 英次<sup>2</sup> (1)国がん東・消化器内科、(2)九大大学院・消化器総合外科)

## Special Events

Room 1	Sep. 21 (Thu.) 16:20-18:20	J
SE2	Stories for cancer drug development originating from Japan 日本発抗がん剤開発物語	

Chairpersons: Hiroyuki Mano (Natl. Cancer Ctr.)  
Yoshiyuki Majima (Rare Cancers Japan)  
Akira Yokoi (Eisai Co., Ltd.)

座長：間野 博行 (国立がん研セ・研・所長)  
眞島 喜幸 (日本希少がん患者会ネットワーク)  
横井 晃 (エーザイ (株))

抗がん剤のシーズ開発から最終的な製剤承認に至るまでのステップには様々なハードルが存在します。日本発のシーズ、あるいは日本が開発の中心となって国際的に成功した代表的な抗がん剤の開発において、どのステップに苦労があり、それをいかに乗り越えて、どのような喜びがあったのかを、開発した会社の方々に実体験をご紹介します。他では聴けない創薬のリアルを体感してください。

### SE2-1 Discovery of Trastuzumab deruxtecan

Yuki Abe (Research Innovation Promotion Dept., Daiichi Sankyo)

トラスツズマブ デルクステカンの創製  
阿部 有生 (第一三共・研究イノベーション推進部)

### SE2-2 Discovery of anti-CCR4 antibody mogamulizumab and its clinical application

Takeshi Takahashi (Medical Affairs, Kyowa Kirin Co., Ltd.)

抗CCR4抗体モガムリズマブの創製とその臨床応用  
高橋 健 (協和キリン・メディカルアフェアーズ)

### SE2-3 Discovery and translational research of multikinase inhibitor Lenvatinib

Yasuhiro Funahashi (Eisai Inc, DHBL, Microenvironment Dynamics Domain)

マルチキナーゼ阻害剤レンパチニブの創製とトランスレーショナルリサーチ  
船橋 泰博 (エーザイ Inc. DHBL MD ドメイン)

### SE2-4 History of research and development of immune checkpoint inhibitor anti-PD-1 antibody, nivolumab

Takao Yoshida (Reserch Center of Oncology, Ono Pharmaceutical Co., Ltd.)

免疫チェックポイント阻害剤抗PD-1抗体ニボルマブ創製の経緯  
吉田 隆雄 (小野薬品工業 オンコロジー研究センター)

### SE2-5 Development history of crizotinib, ALK/ROS1/MET inhibitor

Takashi Nagasawa (Development Japan, Pfizer R&D G.K.)

ALK/ROS1/MET 阻害剤としてのクリゾチニブの開発経緯  
長澤 崇 (ファイザー R&D 合同会社・医薬開発部門)

Room 2 Sep. 21 (Thu.) 13:40-16:10

E

SS2

## Frontiers of Anticancer Drug Modality Research

抗がん剤モダリティ研究の最前線

Chairpersons: Hidenori Ichijo (Grad. sch. of pharm. sci., the university of tokyo)  
Hiroyuki Kusuwhara (Grad. Sch. of Pharm. Sci., The Univ. of Tokyo)座長：一條 秀憲 (東京大・院薬)  
楠原 洋之 (東京大・院薬)

Various treatment modalities have been developed to overcome cancer. The modalities now include genetically modified T cells, oncolytic viruses, and vaccines to strengthen the immune response against cancer. This symposium is planned to introduce emerging pharmaceutical research aimed at developing novel modalities for cancer diagnosis and therapy and share the vision of future directions with the audience. Organic chemistry has advanced the creation of novel functional molecules designed as theranostic probes that aid diagnosis and therapy, and efficient delivery of treatments (small molecules and RNA/DNA) to their target cells and even intracellular target organelles (mitochondria). The presentations will also shed light on the challenges faced in investigating live bacteria as a new treatment modality and signal transduction elicited by lipid mediators in tumor immunity. The six lines of research are expected to be able to address the public's expectations regarding new approaches to cancer therapy.

## SS2-1 Creation of novel small molecule theranostics technology based on live imaging of tumor enzymatic activity

Yasuteru Urano<sup>1,2</sup> (<sup>1</sup>Univ. Tokyo, Grad. Sch. Pharm. Sci., <sup>2</sup>Univ. Tokyo, Grad. Sch. Med.)

酵素活性のライブイメージングに基づく、新たな低分子がんセラノスティクス医療技術の創製

浦野 泰照<sup>1,2</sup> (<sup>1</sup>東京大・院薬, <sup>2</sup>東京大・院医)

## SS2-2 Anti-Cancer Drug Delivery System Based on Modified Streptavidin and Bis-Iminobiotin

Kenzo Yamatsugu<sup>1</sup>, Akira Sugiyama<sup>2</sup> (<sup>1</sup>Grad. Sch. Pharm. Sci. Chiba Univ., <sup>2</sup>ISC The Univ. Tokyo)

改変ストレプトアビジン・改変ビオチンを利用した抗がん薬物送達システムの開発

山次 健三<sup>1</sup>、杉山 暁<sup>2</sup> (<sup>1</sup>千葉大院薬, <sup>2</sup>東大アイン)

## SS2-3 Development of lipid nanoparticles for the control of in vivo immunity: application in cancer treatment

Hidetaka Akita (Lab. Drug Deliv. Disp., Tohoku Univ., Grad Sch. Pharm. Sci.)

生体内免疫を制御する脂質ナノ粒子の開発と癌治療への応用

秋田 英万 (東北大・薬・薬物送達)

## SS2-4 Development of a nanocapsule for use in mitochondria-targeted cancer therapy

Yuma Yamada<sup>1,2</sup> (<sup>1</sup>Faculty of Pharmaceutical Sciences, Hokkaido University, <sup>2</sup>FOREST Program, JST)

ミトコンドリアを標的とした癌治療用ナノカプセルの構築

山田 勇磨<sup>1,2</sup> (<sup>1</sup>北海道大学 大学院薬学研究院, <sup>2</sup>JST 創発的研究支援事業)

## SS2-5 Potential for cancer therapy with live bacterial therapeutics

Hidefumi Mukai (Dept. Pharmaceutical Informatics, Grad. Sch. Biomedical Science, Nagasaki Univ.)

生菌製剤を用いたがん治療の可能性

向井 英史 (長崎大・院・医歯薬・医薬品情報学)

## SS2-6 Serine phospholipids and cancer immunity

Junken Aoki (Dept. Health Chem. Grad. Sch. Pharm. Sci. Univ. Tokyo)

セリンリン脂質とがん免疫

青木 淳賢 (東大院・薬・衛生化学)

Room 3 Sep. 21 (Thu.) 13:40-16:10

E

IS1

## New trends in the control of senescent cells and SASP in cancer therapy

がん治療における老化細胞とSASP制御の新潮流

Chairpersons: Akiko Takahashi (Japanese Foundation for Cancer Res.)  
Elaine Sanij (St Vincent's Inst. of Med. Res.)

座長：高橋 暁子 ((公財) がん研)

Elaine Sanij (St Vincent's Inst. of Med. Res.)

In recent years, it has been reported that chemotherapy drugs such as CDK4/6 inhibitors and radiotherapy induce cellular senescence in cancer and stromal cells, which contributes to cancer treatment resistance and recurrence. Furthermore, senescent cells are involved in the development and malignancy of various cancers via senescence-associated secretory phenotype (SASP). Therefore, understanding the roles of senescent cells and SASP in the cancer microenvironment is expected to lead to control of the increase in cancer incidence with aging and the malignancy of cancer. Development of senolytic drugs targeting senescent cells and senomorphic drugs regulating SASP derived from senescent cells is actively underway for cancer prevention and treatment. In this session, we will discuss novel cancer treatment strategies targeting senescent cells and SASP in the cancer microenvironment.

## IS1-1 New Insights into Epigenetic Alteration and SASP in the Cancer Microenvironment

Akiko Takahashi<sup>1,2</sup> (<sup>1</sup>Dev. Cellular Senescence, Cancer Institute, JFCR, <sup>2</sup>Proj. Cancer Cell Commun., NEXT-Ganken, JFCR)

がん微小環境におけるエピゲノム異常とSASPの新知見

高橋 暁子<sup>1,2</sup> (<sup>1</sup>(公財) がん研究会・がん研究所・細胞老化、<sup>2</sup>NEXT・がん細胞社会成因説明PJ)

## IS1-2 Senescent tumor cells: The new modulator of the cancer microenvironment.

Tae J. Park<sup>1,2</sup>, Soon S. Park<sup>1,2</sup>, Young K. Lee<sup>3</sup>, Yong W. Choi<sup>3</sup>, Jang H. Kim<sup>4</sup> (<sup>1</sup>Department of Biochemistry, Ajou University School of Medicine, <sup>2</sup>Inflamm-Aging Translational Research Center, Ajou University Medical Center, <sup>3</sup>Department of Hematology and Oncology, Ajou University School of Medicine, <sup>4</sup>Department of Pathology, Ajou University School of Medicine)

## IS1-3 Mechanistic Insights into cGAS-STING-Triggered Cellular Senescence

Pinglong Xu, Dan Zhang, Qirou Wu (Life Science Institute, Zhejiang University)

## IS1-4 Exploring therapies targeting cellular senescence dynamics and ploidy alterations associated with cancer progression

Tomonori Matsumoto, Eiji Hara (Dept. Mol. Microbiology, Res. Inst. for Microbial Diseases, Osaka Univ.)

がん進展に伴う細胞老化動態と倍数性変化を標的としたがん治療の探索

松本 知訓、原 英二 (大阪大学 微生物病研究所 遺伝子生物学)

## IS1-5 Targeting the nucleoli in cancer therapy

Elaine Sanij<sup>1,2,3</sup>, Jiachen Xuan<sup>2</sup>, Shalini Chelliah<sup>1,3</sup>, Diannita Kwang<sup>1</sup>, Ruofei Liu<sup>1</sup>, Kezia Gitareja<sup>1</sup>, Keefe Chan<sup>2</sup>, Natalie Brajanovski<sup>2</sup>, Henry Beetham<sup>2</sup>, Kaylene Simpson<sup>3</sup>, Clare Scott<sup>4</sup>, Jian Kang<sup>1</sup> (<sup>1</sup>St Vincents Institute of Medical Research, Fitzroy, VIC, Australia, <sup>2</sup>Peter MacCallum Cancer Centre, East Melbourne, VIC, Australia, <sup>3</sup>Department of Biochemistry and Molecular Biology, Monash University, VIC, Australia, <sup>4</sup>The Walter and Eliza Hall Institute, Parkville, Victoria, Australia)

## IS1-6 The mechanism whereby PDAC resists to CDK inhibition.

Yuanyuan Zhang, Santosh K. Gothwal, Susumu Kohno, Chiaki Takahashi (Kanazawa Univ. Cancer Research Inst.)

PDAC が CDK 阻害に抵抗するメカニズム。

張 園園、ゴトワール サントシクマル、河野 晋、高橋 智聡 (金沢大学・がん進展制御研究所)

**SST2** Development of novel therapeutics for lung cancer

## based on basic and translational research

肺がん:基礎・TR研究に基づく肺がん新規治療法の可能性

Chairpersons: Seiji Yano (Kanazawa Univ.)

Yasushi Goto (Natl. Cancer Ctr. Hopsital)

座長: 矢野 聖二 (金沢大)

後藤 悌 (国立がん研セ・中央病院)

The molecular targeted therapy for advanced lung cancer has achieved remarkable prognostic improvement with the discovery of various driver oncogenes, including EGFR activating mutations and ALK, ROS1, RET, or NTRK fusion oncogenes, and the development of a number of molecular targeted drugs. Furthermore, lung cancer therapy has evolved further with the approval of immune checkpoint inhibitors. Therapies are also under development or have recently been approved for some KRAS and Her2-activating mutation-positive lung cancers for which driver oncogenes have been identified but targeted therapies have not yet been approved. On the other hand, disease progression due to resistance to these therapies remains a major problem. In this session, basic, translational, and clinical researchers will present their latest findings, and we will discuss how to further improve lung cancer treatment in the future.

**SST2-1** Development of novel targeted therapy based on lung cancer genome

Shingo Matsumoto (Dep. Thorac. Oncol., Natl. Cancer Ctr. Hosp. East)

肺癌ゲノムに基づく新規標的治療開発

松本 慎吾 (国がん研東・呼内)

**SST2-2** New therapeutic strategies for driver oncogene positive lung cancer-ROS1

Misako Nagasaka (Division of Hematology and Oncology)

ROS1 肺がんのための新しい治療ストラテジー

長阪 美沙子 (University of California Irvine)

**SST2-3** Antibody Drug Conjugate therapy for the lung cancer

Yasushi Goto (NCCH, Dept. Thorac Oncol.)

肺癌におけるADC治療

後藤 悌 (国立がん研究センター中央病院・呼吸器内科)

**SST2-4** Combination bezafebrate and nivolumab treatment of patients with advanced non small cell lung cancerKentaro Tanaka<sup>1</sup>, Kenji Chamoto<sup>2</sup>, Tasaku Honjo<sup>3</sup>, Isamu Okamoto<sup>1</sup><sup>1</sup>Dept. Res. Med., Grad. Sch. Med. Sci., Kyushu Univ., <sup>2</sup>Dept. Immunol. Genom. Med., Grad. Sch. Med., Kyoto Univ.)

T細胞の代謝変化に着目した新規治療戦略:進行非小細胞肺癌患者に対するベザフィブラートとニボルマブによる併用療法

田中 謙太郎<sup>1</sup>, 茶本 健司<sup>2</sup>, 本庶 佑<sup>3</sup>, 岡本 勇<sup>1</sup> (<sup>1</sup>九州大学・院・呼吸器内科学, <sup>2</sup>京都大学・院・免疫ゲノム医学)**SST2-5** Approaches to Malignant Pleural Mesothelioma by Targeting Epigenetic ModifiersKen Tajima<sup>1</sup>, Yosuke Miyashita<sup>1</sup>, Aditya Wirawan<sup>1</sup>, Kenta Izumi<sup>1</sup>,Naohisa Matsumoto<sup>1</sup>, Yoichiro Mitsuishi<sup>1</sup>, Yasushi Okazaki<sup>2</sup>, Kazuhisa Takahashi<sup>1</sup> (<sup>1</sup>Dept Resp Med Juntendo Unvi Grad Sch Med, <sup>2</sup>RIKEN Ctr. for Integrative Med. Sci)

エピジェネティック修飾因子を標的とした悪性胸膜中皮腫へのアプローチ

田島 健<sup>1</sup>, 宮下 洋祐<sup>1</sup>, Aditya Wirawan<sup>1</sup>, 和泉 研太<sup>1</sup>, 松本 直久<sup>1</sup>, 光石 陽一郎<sup>1</sup>, 岡崎 康司<sup>2</sup>, 高橋 和久<sup>1</sup> (<sup>1</sup>順天堂大学大学院医学研究科 呼吸器内科学, <sup>2</sup>理化学研究所 生命医科学研究センター)**SST2-6** Usefulness of immunological memory murine model for studying mechanisms of resistance to immune checkpoint inhibitors.Ryohei Katayama<sup>1,2</sup> (<sup>1</sup>Div. Exp. Chemother., Cancer Chemother. Ctr., JFCR, <sup>2</sup>Dept. CBMS, Grad. Sch. Front. Sci., The Univ. of Tokyo)

がん免疫記憶マウスモデルを用いた免疫チェックポイント阻害薬抵抗性機構の発見

片山 量平<sup>1,2</sup> (<sup>1</sup>(公財)がん研・化療セ・基礎研究部, <sup>2</sup>東大・新領域・メディカル情報生命)**IS2** Dynamic gene regulation program in mediating adaptation

## and plasticity of cancers establishing tissue heterogeneity

がんの可塑性と適応性を動的に制御し組織多様性を生み出す遺伝子調節機構

Chairpersons: Yutaka Kondo (Nagoya university graduate school of medicine)

Shyam Prabhakar (Genome Inst. of Singapore)

座長: 近藤 豊 (名古屋大・院医・腫瘍生物学)

Shyam Prabhakar (Genome Inst. of Singapore)

Recent studies showed that gene expression is regulated by multiple layers of a dynamic coordination of regulatory factors at certain genomic loci. In many types of cancers, genetic alterations are found in such factors, especially epigenetic regulators, RNA splicing factors, and RNA binding proteins, indicating the crucial properties of these factors during carcinogenesis. Epigenetic regulators and other associated proteins in many important nuclear processes was shown to engage in multilayer cooperative interactions that dynamically regulate not only cancer cells but also the cells composing tumor microenvironment including different types of immune cells. These findings may raise a possibility of novel drug targets for cancer treatment. In this session, researchers from Asian countries discuss an emerging perspective of gene regulatory network, which contributes to establish tumor cells and their microenvironmental heterogeneity.

**IS2-1** Long Non-coding RNA as a fast-acting molecule for regulating cancer cell homeostasis

Yutaka Kondo (Div. Can. Biol., Nagoya Univ. Grad. Sch. Med)

長鎖非翻訳 RNA はがん細胞の恒常性に関わる早期応答性分子である

近藤 豊 (名古屋大・院医・腫瘍生物)

**IS2-2** TERRA R-loops induce XPF-mediated breaks for Alternative Lengthening of Telomeres--New insights into ALT cancer therapyHsuehping C. Chu<sup>1</sup>, Chiayu Guh<sup>1</sup>, Hongjih Shen<sup>1</sup>, Liv W. Chen<sup>1</sup>,Peichen Chiu<sup>1</sup>, Ihsin N. Liao<sup>1</sup>, Chenchia Lo<sup>1</sup>, Yunfei Chen<sup>1</sup>, Yuhung J. Hsieh<sup>1</sup>, Tingchia Chang<sup>1</sup>, Chienping Yen<sup>1</sup>, Yiyun Chen<sup>2</sup>, Tom W. Chen<sup>3</sup>, Lihyow Chen<sup>4</sup>, Chingshyi Wu<sup>5</sup>, Jean M. Egly<sup>6,7</sup> (<sup>1</sup>Institute of Molecular and Cellular Biology, National Taiwan University, Taiwan,<sup>2</sup>Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan, <sup>3</sup>Department of Oncology, National Taiwan University Hospital, Taipei, Taiwan, <sup>4</sup>Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan, <sup>5</sup>Department of Pharmacology, National Taiwan University, Taipei, Taiwan, <sup>6</sup>Department of Functional Genomics and Cancer, IGBMC, Strasbourg, France, <sup>7</sup>College of Medicine, National Taiwan University, Taipei, Taiwan)**IS2-3** The Role of BRD9 in Chromatin Regulation and Therapeutic Potential in Leukemia: Insights from SF3B1-Mutated Cancers

Daichi Inoue (Department of Hematology-Oncology, IBRI, FBRI)

クロマチン制御におけるBRD9の役割とメカニズムに基づく白血病治療応用

井上 大地 (神戸先端研・血液腫瘍研究部)

**IS2-4** Tumor Adaptation and Re-sensitization to Immune Checkpoint TherapyAlfred Cheng<sup>1</sup>, Zhewen Xiong<sup>1</sup>, Stephen Chan<sup>2</sup>, Jingying Zhou<sup>1</sup>, Joseph Sung<sup>3</sup> (<sup>1</sup>School of Biomedical Sciences, The Chinese University of Hong Kong, <sup>2</sup>Department of Clinical Oncology, The Chinese University of Hong Kong, <sup>3</sup>Lee Kong Chian School of Medicine, Nanyang Technological University)**IS2-5** Liver Cancer Cells Conditions Monocytes to Adopt Pro-tumor Macrophage Phenotypes via Cholesterol MetabolismTanapat Palaga<sup>1,2,3,4</sup>, Pornlapat Keawvilai<sup>2,3</sup>, Patipark Kueanjinda<sup>2,4</sup>, Jeerameth Klomsing<sup>1</sup> (<sup>1</sup>Department of Microbiology, Faculty of Science, Chulalongkorn University, <sup>2</sup>Center of Excellence in Immunology and Immune Mediated Diseases, Chulalongkorn, <sup>3</sup>Graduate Program in Biotechnology, Faculty of Science, Chulalongkorn University, <sup>4</sup>Department of Microbiology, Faculty of Medicine, Chulalongkorn University)**IS2-6** Gene regulation program for proliferation and differentiation in Wnt signal-activated liver and colon cancerAkira Kikuchi<sup>1</sup>, Shinji Matsumoto<sup>2</sup>, Akikazu Harada<sup>2</sup> (<sup>1</sup>Ctr. Infectious Res. & Education, Osaka Univ., <sup>2</sup>Dept. Mol. Biol. & Biochem., Grad. Sch. Med., Osaka Univ.)

Wnt シグナル活性型肝がんと大腸がんにおける細胞増殖分化機構と遺伝子発現制御

菊池 章<sup>1</sup>, 松本 真司<sup>2</sup>, 原田 昭和<sup>2</sup> (<sup>1</sup>阪大・感染症拠点, <sup>2</sup>阪大・医学系研究科・分子病態生化学)**IS2-7** Single cell and spatial analysis of epithelial cell diversity in colorectal cancer

Shyam Prabhakar (Spatial and Single Cell Systems, A\*STAR Genome Institute of Singapore)

**IS2-7** Single cell and spatial analysis of epithelial cell diversity in colorectal cancer

Shyam Prabhakar (Spatial and Single Cell Systems, A\*STAR Genome Institute of Singapore)

Room 6 Sep. 21 (Thu.) 13:40-14:55

E7-1

**Whole cancer genome sequencing**  
全ゲノムシーケンスによるがんゲノム解析Chairperson: Masashi Sanada (Clin. Res. Ctr. NHO Nagoya Med.Ctr.)  
座長: 真田 昌 (NHO 名古屋医療セ臨床研究センター)**E-1049 Whole genome and transcriptome analysis of bone and soft tissue sarcomas**

Toshihide Hirai<sup>1</sup>, Kotoe Katayama<sup>2</sup>, Yuichi Shiraishi<sup>3</sup>, Akira Kawai<sup>4</sup>, Akihiko Yoshida<sup>5</sup>, Hiroshi Kobayashi<sup>6</sup>, Takashi Ohtsu<sup>7</sup>, Toshiyuki Kunisada<sup>8</sup>, Yoshihiro Nishida<sup>9</sup>, Shinichiro Yoshida<sup>10</sup>, Tadashi Kondo<sup>11</sup>, Tatsuhiko Shibata<sup>12</sup>, Seiya Imoto<sup>13</sup>, Koichi Matsuda<sup>14</sup>, Makoto Hirata<sup>1</sup> (1)Division of Molecular Pathology, National Cancer Center Research Institute, 2)Lab.of Sequence Analysis, The University of Tokyo, 3)Division of Genome Analysis Platform Development, NCCRI, 4)Department of Musculoskeletal Oncology, National Cancer Center Hospital, 5)Department of Diagnostic Pathology, National Cancer Center Hospital, 6)Department of Orthopedic Surgery, The University of Tokyo, 7)Department of Musculoskeletal Tumor Surgery, Kanagawa Cancer Center, 8)Department of Orthopedic Surgery, Okayama University Hospital, 9)Department of Orthopedic Surgery, Nagoya University Graduate School of Medicine, 10)Department of Orthopaedic Surgery, Tohoku University School of Medicine, 11)Division of Rare Cancer Research, NCCRI, 12)Division of Cancer Genomics, NCCRI, 13)Division of Health Medical Intelligence, The University of Tokyo, 14)Laboratory of Clinical Genome Sequencing, The University of Tokyo)

**骨軟部肉腫の全ゲノム、トランスクリプトーム解析**

平井 利英<sup>1</sup>、片山 琴絵<sup>2</sup>、白石 友一<sup>3</sup>、川井 章<sup>4</sup>、吉田 朗彦<sup>5</sup>、小林 寛<sup>6</sup>、大津 敬<sup>7</sup>、国定 俊之<sup>8</sup>、西田 佳弘<sup>9</sup>、吉田 新一郎<sup>10</sup>、近藤 格<sup>11</sup>、柴田 龍弘<sup>12</sup>、井元 清哉<sup>13</sup>、松田 浩一<sup>14</sup>、平田 真<sup>1</sup> (1)国立がんセンター 分子病理分野、2)東大医科研シーケンスデータ情報処理分野、3)国立がんセンター ゲノム解析基盤開発分野、4)国立がんセンター中央病院 骨軟部腫瘍科、5)国立がんセンター中央病院 病理診断科、6)東京大学 整形外科、7)神奈川がんセンター 骨軟部腫瘍科、8)岡山大学 整形外科、9)名古屋大学 整形外科、10)東北大学 整形外科、11)国立がんセンター 希少がん研究分野、12)国立がんセンター がんゲノミクス研究分野、13)東大医科研ヘルスインテリジェンスセンター、14)東大新領域クリニカルシーケンス分野)

**E-1050 The Genomic Landscape of Driver Mutation-Negative Lung Adenocarcinoma: A Comprehensive Whole-Genome Sequencing Analysis**

Masahiro Torasawa<sup>1,2</sup>, Kouya Shiraishi<sup>3</sup>, Akifumi Mochizuki<sup>4</sup>, Shingo Matsumoto<sup>5</sup>, Junko Hamamoto<sup>6</sup>, Hirokazu Matsushita<sup>5</sup>, Issei Imoto<sup>6</sup>, Hiroyuki Yasuda<sup>4</sup>, Masahiro Tsuboi<sup>7</sup>, Koichi Goto<sup>8</sup>, Shunichi Watanabe<sup>8</sup>, Yuichi Shiraishi<sup>9</sup>, Ryuji Hamamoto<sup>10</sup>, Yuichiro Ohe<sup>1</sup>, Takashi Kohno<sup>2</sup> (1)Dept. Thoracic Oncol., Natl. Cancer Ctr. Hosp., 2)Div. Genome Biol., Natl. Cancer Ctr. Res. Inst., 3)Dept. Thoracic Surg., Natl. Cancer Ctr. East Hosp., 4)Div. Pulmonary Med., Keio Univ. Hosp., 5)Div. Translational Oncoimmunol., Aichi Cancer Ctr. Res. Inst., 6)Div. Mol. Genetics., Aichi Cancer Ctr. Res. Inst., 7)Dept. Thoracic Oncol., Natl. Cancer Ctr. East Hosp., 8)Dept. Thoracic Surg., Natl. Cancer Ctr. Hosp., 9)Div. Genome Analysis Platform Dev., Natl. Cancer Ctr. Res. Inst., 10)Div. Medical AI Res. Dev., Natl. Cancer Ctr. Res. Inst.)

**大規模全ゲノム解析によるドライバー遺伝子変異陰性肺腺がんのゲノムの特徴の解明**

虎澤 匡洋<sup>1,2</sup>、白石 航也<sup>3</sup>、望月 晶史<sup>2</sup>、松本 慎吾<sup>3</sup>、浜本 純子<sup>4</sup>、松下 博和<sup>5</sup>、井本 逸勢<sup>6</sup>、安田 浩之<sup>4</sup>、坪井 正博<sup>7</sup>、後藤 功一<sup>3</sup>、渡辺 俊一<sup>8</sup>、白石 友一<sup>9</sup>、浜本 隆二<sup>10</sup>、大江 裕一郎<sup>1</sup>、河野 隆志<sup>2</sup> (1)国立がん研究セ・中央病院・呼吸器内科、2)国立がん研究セ・研究所・ゲノム生物学、3)国立がん研究セ・東病院・呼吸器外科、4)慶応大学病院・呼吸器内科、5)愛知がんセ・研・腫瘍免疫制御 TR、6)愛知がんセ・研・分子遺伝学、7)国立がん研究セ・東病院・呼吸器内科、8)国立がん研究セ・中央病院・呼吸器外科、9)国立がん研究セ・研・ゲノム解析基盤開発、10)国立がん研究セ・研・医療 AI 研究開発)

**E-1051 Analysis of genomic landscape and tumor evolution in astroblastoma by whole-genome sequencing**

Ryo Yamamoto<sup>1,2</sup>, Takuma Nakashima<sup>1,2</sup>, Yuriko Sugihara<sup>1</sup>, Yusuke Funakoshi<sup>1</sup>, Hirohisa Yazima<sup>1,3</sup>, Kensuke Tateishi<sup>4</sup>, Tomonari Suzuki<sup>5</sup>, Ryuta Saito<sup>2</sup>, Yoshitaka Narita<sup>6</sup>, Sumihito Nobusawa<sup>7</sup>, Hiromichi Suzuki<sup>1</sup> (1)Division of Brain Tumor Translational Research, National Cancer Center, 2)Department of Neurosurgery, Nagoya University Graduate School of Medicine, 3)Department of Neurosurgery, The University of Tokyo, 4)Department of Neurosurgery, Yokohama City University, 5)Department of NeuroOncology/Neurosurgery, Saitama Medical University International Medical Center, 6)Department of Neurosurgery and NeuroOncology, National Cancer Center Hospital, 7)Department of Human Pathology, Gunma University Graduate School of Medicine)

**全ゲノムシーケンスによる星芽腫の遺伝子異常と進展様式の解明**  
山本 諒<sup>1,2</sup>、中島 拓真<sup>1,2</sup>、杉原 由利子<sup>1</sup>、舟越 勇介<sup>1</sup>、矢島 寛久<sup>1,3</sup>、立石 健佑<sup>4</sup>、鈴木 智成<sup>5</sup>、齋藤 竜太<sup>2</sup>、成田 善孝<sup>6</sup>、信澤 純人<sup>7</sup>、鈴木 啓道<sup>1</sup> (1)国立がんセンター脳腫瘍連携研究分野、2)名古屋大学大学院医学系研究科脳神経外科学、3)東京大学医学部脳神経外科、4)横浜市立大学脳神経外科、5)埼玉医科大学脳脊髄腫瘍科、6)国立がんセンター中央病院脳脊髄腫瘍科、7)群馬大学大学院医学系研究科病態病理学)

**E-1052 Clonal Dynamics of Disease Progression in MPN Revealed Using Whole Genome Sequencing**

Hiroyuki Takamori<sup>1</sup>, Yingjung Huang<sup>2</sup>, Seishi Ogawa<sup>3</sup>, Yasuhito Nannya<sup>1</sup>, Leeyung Shih<sup>2,4</sup> (1)Inst. of Med. Sci., The Univ. of Tokyo, 2)Div. of Hematology-Oncology, Chang Gung Memorial Hosp., 3)Dept. of Path. & Tumor Biol., Kyoto Univ., 4)College of Medicine, Chang Gung Univ.)

**全ゲノム解析を用いた骨髄増殖性疾患の病勢進行に伴うクローン進化の解明**

高森 弘之<sup>1</sup>、Yingjung Huang<sup>2</sup>、小川 誠司<sup>3</sup>、南谷 泰仁<sup>1</sup>、Leeyung Shih<sup>2,4</sup> (1)東京大学医科学研究所造血病態制御学分野、2)Chang Gung Memorial Hosp., 3)京都大学医学研究科腫瘍生物学講座、4)College of Medicine, Chang Gung Univ.)

**E-1053 Landscape of somatic alterations in host and viral genomes in extranodal NK/T-cell lymphoma**

Yuta Ito<sup>1,2</sup>, Yasunori Kogure<sup>1</sup>, Junji Koya<sup>1</sup>, Kenichi Chiba<sup>3</sup>, Ai Okada<sup>3</sup>, Yuichi Shiraishi<sup>1</sup>, Sachiko Tsukita<sup>4</sup>, Koji Izutsu<sup>5,6</sup>, Seiji Sakata<sup>7,8,9</sup>, Akito Dobashi<sup>7,8,9</sup>, Kengo Takeuchi<sup>7,8,9</sup>, Hiroaki Miyoshi<sup>10</sup>, Koichi Ohshima<sup>10</sup>, Masashi Sanada<sup>11</sup>, Seishi Ogawa<sup>12,13,14</sup>, Keisuke Kataoka<sup>1,15</sup> (Div. Molecul. Oncol., Natl. Cancer Ctr. Res. Inst., 2)Div. Clin. Oncol. & Hematol., Jikei Univ. Sch. of Med., 3)Div. Genome Analysis Platform Develop., Natl. Cancer Ctr. Res. Inst., 4)ACRO, Teikyo Univ., 5)Dep. Hematol., Natl. Cancer Ctr. Hosp., 6)Dep. Hematol., Toranomon Hosp., 7)Pathol. Proj. for Molecul. Targets, Cancer Inst., JFCR, 8)Div. of Pathol., Cancer Inst., JFCR, 9)Div. of Pathol., Cancer Inst. Hosp., JFCR, 10)Dep. Pathol., Kurume Univ. Sch. of Med., 11)Clin. Res. Ctr., Natl. Hosp. Org. Nagoya Med. Ctr., 12)Dep. Pathol. & Tumor Biol., Kyoto Univ., 13)ASHBi, Kyoto Univ., 14)Dep. Med., Ctr. for Hematol. & Regen. Med., Karolinska Inst., 15)Dep. Hematol., Dep. Med., Keio Univ. Sch. of Med.)

**節外性NK/T細胞リンパ腫における宿主およびウイルスゲノムにおける体細胞異常の全体像**

伊藤 勇太<sup>1,2</sup>、木暮 泰寛<sup>1</sup>、古屋 淳史<sup>1</sup>、千葉 健一<sup>3</sup>、岡田 愛<sup>3</sup>、白石 友一<sup>3</sup>、月田 早智子<sup>4</sup>、伊豆津 宏二<sup>5,6</sup>、坂田 征士<sup>7,8,9</sup>、土橋 映仁<sup>7,8,9</sup>、竹内 賢吾<sup>7,8,9</sup>、三好 寛明<sup>10</sup>、大島 孝一<sup>10</sup>、真田 昌<sup>11</sup>、小川 誠司<sup>12,13,14</sup>、片岡 圭亮<sup>1,15</sup> (1)国立がん研究セ・研・分子腫瘍、2)慈恵医大・医・腫血内、3)国立がん研究セ・研・ゲノム開発基盤、4)帝京大・先端総研、5)国立がん研究セ・中央病院・血液腫瘍科、6)虎ノ門病院・血内、7)がん研・分子標的病理プロジェクト、8)がん研・がん研究所病理部、9)がん研・有明病院病理部、10)久留米大・医・病理学講座、11)名古屋医療セ・臨床研究セ、12)京都大・医・腫瘍生物学、13)京都大・ヒト生物学高等研究拠点、14)カロリンスカ研・医、15)慶應大・医・血内)

**E-1054 Cancer-type-specific somatic mutations in super-enhancer regions of intestinal- and diffuse-type gastric carcinoma**

Heesun Sim<sup>1</sup>, Miwako Kakiuchi<sup>1</sup>, Daisuke Komura<sup>1</sup>, Hiroto Katoh<sup>1</sup>, Shumpei Ishikawa<sup>1,2</sup> (1)Dept. Prev. Med., Grad. Sch. Med., The Univ. of Tokyo, 2)Div. Path., NCC Exploratory Oncol. Res. & Clin. Trial Ctr.)

**びまん性胃癌特異的な、スーパーエンハンサー領域における体細胞変異の解明**

沈 希宣<sup>1</sup>、垣内 美和子<sup>1</sup>、河村 大輔<sup>1</sup>、加藤 洋人<sup>1</sup>、石川 俊平<sup>1,2</sup> (1)東大・医・衛生学、2)国がん・先端医セ・臨床腫瘍病理)

## Genomic analysis of tumor and non-tumor tissues

非腫瘍部も含めた多面的なゲノム解析

Chairperson: Kouya Shiraishi (Dept. Clin. Genomics, Natl. Cancer Ctr. Res. Inst.)  
座長: 白石 航也 (国立がん研究センター研究所臨床ゲノム解析部門)

## J-1037 Genomic and Epigenomic Integrative Subtypes of Renal Cell Carcinoma

Akihiko Fukagawa<sup>1</sup>, Natsuko Hama<sup>1</sup>, Yasushi Totoki<sup>1</sup>, Hiromi Nakamura<sup>1</sup>, Yasuhito Arai<sup>1</sup>, Mihoko Adachi<sup>1</sup>, Akiko Maeshima<sup>2</sup>, Yoshiyuki Matsui<sup>3</sup>, Shinichi Yachida<sup>4</sup>, Tetsuo Ushiku<sup>5</sup>, Tatsuhiro Shibata<sup>1,6</sup> (<sup>1</sup>Div. of Cancer Genomics, Natl. Cancer Ctr. Inst., <sup>2</sup>Dept. of Diagnostic Pathology, Nalt. Cancer Ctr. Hosp., <sup>3</sup>Dept. of Urology, Nalt. Cancer Ctr. Hosp., <sup>4</sup>Dept. of Cancer Genome Informatics, Osaka Univ., <sup>5</sup>Dep. of Pathology, The Univ. of Tokyo, <sup>6</sup>Lab. of Molecular Medicine, The Univ. of Tokyo)

## 腎細胞がんの統合的ゲノム・エピゲノム解析

深川 彰彦<sup>1</sup>、濱 奈津子<sup>1</sup>、十時 泰<sup>1</sup>、中村 浩美<sup>1</sup>、新井 康仁<sup>1</sup>、足立 美保子<sup>1</sup>、前島 亜希子<sup>2</sup>、松井 喜之<sup>3</sup>、谷内 田真一<sup>4</sup>、牛久 哲男<sup>5</sup>、柴田 龍弘<sup>1,6</sup> (国立がん研究センター がんゲノミクス分野、<sup>2</sup>国立がん研究センター中央病院 病理診断科、<sup>3</sup>国立がん研究センター中央病院 泌尿器科、<sup>4</sup>大阪大学 ゲノム情報学、<sup>5</sup>東京大学 人体病理学・病理診断学分野、<sup>6</sup>東京大学医科学研究所 ゲノム医科学分野)

## J-1038 Elucidation of inter- and intra-tumor heterogeneity in chromophobe renal cell carcinomas and its related subtypes

Ryosuke Jikuya<sup>1,2</sup>, Todd A. Johnson<sup>2</sup>, Kazuhiro Maejima<sup>2</sup>, Mitsuko Furuya<sup>3</sup>, Ikuma Kato<sup>4</sup>, Masashi Fujii<sup>1</sup>, Masaya Baba<sup>5</sup>, Haruka Hamanoue<sup>6</sup>, Go Noguchi<sup>1</sup>, Hiroji Uemura<sup>7</sup>, Masahiro Yao<sup>1</sup>, Kazuhide Makiyama<sup>1</sup>, Tomohiko Tamura<sup>8</sup>, Hidewaki Nakagawa<sup>2</sup>, Hisashi Hasumi<sup>1</sup> (<sup>1</sup>Dept. of Urology, Yokohama City Univ., <sup>2</sup>Lab. for Cancer Genomics, RIKEN., <sup>3</sup>GeneticLab Co., Ltd., <sup>4</sup>Dept. of Mol. Pathol., Yokohama City Univ., <sup>5</sup>International Res. Ctr. for Med. Sci., Kumamoto Univ., <sup>6</sup>Clin. Genetics Dept., Yokohama City Univ., <sup>7</sup>Dept. of Urology, Yokohama City Univ. Med. Ctr., <sup>8</sup>Dept. of Immunol., Yokohama City Univ.)

## 嫌色索性腎癌およびその関連腎癌における腫瘍間、腫瘍内不均一性の解明

軸屋 良介<sup>1,2</sup>、Todd A. Johnson<sup>2</sup>、前嶋 和紘<sup>2</sup>、古屋 充子<sup>3</sup>、加藤 生真<sup>4</sup>、藤井 誠志<sup>5</sup>、馬場 理也<sup>5</sup>、浜之上 はるか<sup>6</sup>、野口 剛<sup>1</sup>、上村 博司<sup>7</sup>、矢尾 正祐<sup>1</sup>、横山 和秀<sup>1</sup>、田村 智彦<sup>8</sup>、中川 英刀<sup>2</sup>、蓮見 壽史<sup>1</sup> (横浜市大 泌尿器科、<sup>2</sup>理研 がんゲノム研究チーム、<sup>3</sup>株式会社ジェネティックスラボ、<sup>4</sup>横浜市大 分子病理学、<sup>5</sup>熊本大学 国際先端医学研究機構、<sup>6</sup>横浜市大 遺伝子診療科、<sup>7</sup>横浜市大市民総合医療センター 泌尿器科、<sup>8</sup>横浜市大 免疫学)

## J-1039 Genomic analysis of end-stage renal disease

Kosuke Ieiri<sup>1</sup>, Nobuyuki Kakiuchi<sup>1</sup>, Tomonori Hirano<sup>1</sup>, Koichi Watanabe<sup>1</sup>, Hiroko Tanaka<sup>3</sup>, Satoru Miyano<sup>3</sup>, Takashi Matsumoto<sup>2</sup>, Dai Takamatsu<sup>2</sup>, Keisuke Monji<sup>2</sup>, Masaki Shiota<sup>2</sup>, Junichi Inokuchi<sup>2</sup>, Hideki Makishima<sup>1</sup>, Masatoshi Eto<sup>2</sup>, Seishi Ogawa<sup>1</sup> (<sup>1</sup>Department of Pathology and Tumor Biology, Kyoto University, <sup>2</sup>Department of Urology, Graduate School of Medical Science, Kyushu University, <sup>3</sup>M&D Data Science Center, Tokyo Medical and Dental University)

## 末期腎不全における遺伝子解析

家入 康輔<sup>1</sup>、垣内 伸之<sup>1</sup>、平野 智紀<sup>1</sup>、渡部 光一<sup>1</sup>、田中 洋子<sup>3</sup>、宮野 悟<sup>3</sup>、松元 崇<sup>2</sup>、高松 大<sup>2</sup>、門司 恵介<sup>2</sup>、塩田 真己<sup>2</sup>、猪口 淳一<sup>2</sup>、牧島 秀樹<sup>1</sup>、江藤 正俊<sup>2</sup>、小川 誠司<sup>1</sup> (京都大学大学院医学研究科 腫瘍生物学講座、<sup>2</sup>九州大学大学院医学研究科 泌尿器科学分野、<sup>3</sup>東京医科歯科大学 M&D データ科学センター)

## J-1040 A diffuse-type dominant, alcohol-associated, and East Asian ancestry-enriched mutational signature in gastric cancers

Yasushi Totoki<sup>1</sup>, Hiromi Nakamura<sup>1</sup>, Natsuko Hama<sup>1</sup>, Mihoko Adachi<sup>1</sup>, Hirofumi Rokutan<sup>1,2</sup>, Akihiro Suzuki<sup>3</sup>, Yasuhito Arai<sup>1</sup>, Fumie Hosoda<sup>1</sup>, Kenji Tatsuno<sup>4</sup>, Shumpei Ishikawa<sup>5</sup>, Hiroyuki Aburatani<sup>4</sup>, Tatsuhiro Shibata<sup>1,6</sup> (<sup>1</sup>Div. Cancer Genomics, Natl. Cancer Ctr. Res. Inst., <sup>2</sup>Dept. Pathol., Grad. Sch. Med., The Univ. of Tokyo, <sup>3</sup>Dept. Clin. Cancer Genomics, Yokohama City Univ. Hosp., <sup>4</sup>Genome Sci., RCAST, Univ. of Tokyo, <sup>5</sup>Dept. Prev. Med., Univ. of Tokyo, <sup>6</sup>Lab. Mol. Ned., IMSUT)

東アジア系のびまん型胃がんが多い飲酒と関連する変異シグネチャー  
十時 泰<sup>1</sup>、中村 浩美<sup>1</sup>、濱 奈津子<sup>1</sup>、足立 美保子<sup>1</sup>、六反 啓文<sup>1,2</sup>、鈴木 章浩<sup>3</sup>、新井 康仁<sup>1</sup>、細田 文恵<sup>1</sup>、辰野 健二<sup>4</sup>、石川 俊平<sup>5</sup>、油谷 浩幸<sup>4</sup>、柴田 龍弘<sup>1,6</sup> (国立がん研セ・研・がんゲノミクス、<sup>2</sup>東京大・院医・人体病理学・病理診断学、<sup>3</sup>横浜市大・附属病院・がんゲノム診断科、<sup>4</sup>東京大・先端研・ゲノムサイエンス、<sup>5</sup>東京大・医・衛生、<sup>6</sup>東京大・医科研・ゲノム医科学分野)

## J-1041 Genomic analysis of non-cancerous gastric mucosa affected by Helicobacter pylori infection

Koki Chikugo<sup>1</sup>, Nobuyuki Kakiuchi<sup>1,2,3</sup>, Yasuhide Takeuchi<sup>4</sup>, Koichi Watanabe<sup>1</sup>, Ryunosuke Saiki<sup>1</sup>, Tomonori Hirano<sup>1,3</sup>, Tomomi Nishimura<sup>1</sup>, Hiroko Tanaka<sup>3</sup>, Satoru Miyano<sup>3</sup>, Shigeo Hisamori<sup>6</sup>, Shigeru Tsunoda<sup>6</sup>, Hiroshi Seno<sup>2</sup>, Hironori Haga<sup>4</sup>, Kazutaka Obama<sup>6</sup>, Seishi Ogawa<sup>1,7,8</sup> (<sup>1</sup>Department of Pathology and Tumor Biology, Kyoto Univ., <sup>2</sup>Department of Gastroenterology and Hepatology, Kyoto Univ., <sup>3</sup>The Hakubi Center for Advanced Research, Kyoto Univ., <sup>4</sup>Department of Diagnostic Pathology, Kyoto University Hospital, <sup>5</sup>M&D Data Science Center, Tokyo Medical and Dental Univ., <sup>6</sup>Department of Surgery, Graduate School of Medicine, Kyoto Univ., <sup>7</sup>Institute for the Advanced Study of Human Biology, Kyoto Univ., <sup>8</sup>Center for Hematology and Regenerative Medicine, Karolinska Institute)

## Helicobacter pylori 感染の影響を受けた非癌部胃粘膜のゲノム解析

筑後 孝紀<sup>1</sup>、垣内 伸之<sup>1,2,3</sup>、竹内 康英<sup>4</sup>、渡部 光一<sup>1</sup>、佐伯 龍之介<sup>1</sup>、平野 智紀<sup>1,2</sup>、西村 友美<sup>1</sup>、田中 洋子<sup>5</sup>、宮野 悟<sup>5</sup>、久森 重夫<sup>6</sup>、角田 茂<sup>6</sup>、妹尾 浩<sup>2</sup>、羽賀 博典<sup>4</sup>、小濱 和貴<sup>6</sup>、小川 誠司<sup>1,7,8</sup> (京都大学 医学研究科 腫瘍生物学講座、<sup>2</sup>京都大学大学院医学研究科 消化器内科学、<sup>3</sup>京都大学 白眉センター、<sup>4</sup>京都大学医学部附属病院 病理診断科、<sup>5</sup>東京医科歯科大学 M&D データ科学センター、<sup>6</sup>京都大学医学部附属病院 消化管外科、<sup>7</sup>京都大学高等研究院ヒト生物学高等研究拠点、<sup>8</sup>カロリンスカ研究所血液学再生医療センター)

## J-1042 Subclonal immune escape evolution in microsatellite instability-high colorectal cancers.

Koshi Mimori<sup>1</sup>, Yuta Kobayashi<sup>2</sup>, Atsushi Niida<sup>3</sup>, Kazuki Takahashi<sup>3</sup>, Satoshi Nagayama<sup>4</sup>, Takaaki Masuda<sup>1</sup> (<sup>1</sup>Kyushu Univ. Beppu Hosp., <sup>2</sup>Dept. Gastroenterological Surg., Grad. Sch. Med., Osaka Univ., <sup>3</sup>Human Genome Ctr., Inst. Med. Sci., Univ. Tokyo, <sup>4</sup>Dept. Surg., Uji-Tokushukai Med. Ctr.)

## MSI-H 大腸がんの免疫回避にむけたゲノム進化機構

三森 功士<sup>1</sup>、小林 雄太<sup>2</sup>、新井田 厚司<sup>3</sup>、高橋 数牙<sup>3</sup>、長山 聡<sup>4</sup>、増田 隆明<sup>1</sup> (九州大学病院別府病院外科、<sup>2</sup>大阪大学・消化器外科、<sup>3</sup>東京大学医科学研究所、<sup>4</sup>宇治徳州会病院外科)



**J16** Development of novel therapeutics  
新規治療開発

Chairperson: Mitsutoshi Nakada (Dept of Neurosurgery, Kanazawa University)  
座長：中田 光俊 (金沢大・医・脳神経外科)

- J-1043** **A new strategy for ATL treatment targeting GSK-3β**  
Naoki Mori<sup>1</sup>, Chie Ishikawa<sup>1,2</sup> (1Dept. Microbiol. Oncol., Grad. Sch. Med., Univ. Ryukyus, 2Transdisciplinary Res. Organ. Subtrop. Isl. Stud., Univ. Ryukyus)  
GSK-3βを標的としたATL治療の新たな戦略  
森 直樹<sup>1</sup>、石川 千恵<sup>1,2</sup> (1琉球大・院医・微生物学・腫瘍学、2琉球大・亜熱帯島嶼科学超域研究推進機構)
- J-1044** **RAS-signaling inhibitors that allosterically disrupt effector conformation and inhibit growth of RAS-driven cancers**  
Yoko Yoshikawa<sup>1</sup>, Yoshiteru Makino<sup>1</sup>, Hirokazu Kubota<sup>2</sup>, Shigeyuki Matsumoto<sup>4</sup>, Hitomi Yuki<sup>2</sup>, Teruki Honma<sup>3</sup>, Hiroo Koyama<sup>3</sup>, Fumi Shima<sup>1</sup> (1Kobe University Graduate School of Science, Technology and Innovation, 2RIKEN Center for Sustainable Resource Science, 3RIKEN Center for Biosystems Dynamics Research, 4Kyoto University Graduate School of Medicine)  
新規RASシグナル阻害剤：標的分子の構造をアロステリックに破壊し、広範なRAS駆動型がんの増殖阻害を示す薬剤の開発  
吉川 陽子<sup>1</sup>、榎野 義輝<sup>1</sup>、窪田 浩一<sup>2</sup>、松本 篤幸<sup>4</sup>、幸 瞳<sup>3</sup>、本間 光貴<sup>3</sup>、小山 裕雄<sup>3</sup>、島 扶美<sup>1</sup> (1神戸大学 科学技術イノベーション研究科、2理化学研究所 環境資源科学研究センター、3理化学研究所 生命機能科学研究センター、4京都大学大学院 医学研究科)
- J-1045** **Regulation and function of BRD8, a subunit of the TIP60 HAT complex, in colorectal cancer cells**  
Kiyoshi Yamaguchi<sup>1</sup>, Saya Nakagawa<sup>1</sup>, Yuya Okawara<sup>1</sup>, Kiyoko Takane<sup>1</sup>, Tsuneo Ikenoue<sup>1</sup>, Hiroko Hata<sup>2</sup>, Masaaki Oyama<sup>2</sup>, Satoru Nagatoishi<sup>2</sup>, Kouhei Tsumoto<sup>3</sup>, Susumu Aikou<sup>4</sup>, Dai Shida<sup>4</sup>, Rui Yamaguchi<sup>3</sup>, Satoru Miyano<sup>6</sup>, Seiya Imoto<sup>7</sup>, Yoichi Furukawa<sup>1</sup> (1Div. Clin. Genome Res., Inst. Med. Sci., Univ. Tokyo, 2Med. Proteomics Lab., Inst. Med. Sci., Univ. Tokyo, 3Dept. Bioeng., Sch. Eng., Univ. Tokyo, 4Div. Front. Surg., Inst. Med. Sci., Univ. Tokyo, 5Div. Cancer Systems Biol., Aichi Cancer Ctr. Res. Inst., 6M&D Data Sci. Ctr., Tokyo Med. Dent. Univ., 7Div. Health Med. Intelligence, Inst. Med. Sci., Univ. Tokyo)  
大腸がんにおけるTIP60複合体構成因子BRD8の制御と機能  
山口 貴世志<sup>1</sup>、中川 沙弥<sup>1</sup>、大河原 悠哉<sup>1</sup>、高根 希世子<sup>1</sup>、池上 恒雄<sup>1</sup>、秦 裕子<sup>2</sup>、尾山 大明<sup>2</sup>、長門石 暁<sup>3</sup>、津本 浩平<sup>3</sup>、愛甲 丞<sup>4</sup>、志田 大<sup>4</sup>、山口 類<sup>6</sup>、宮野 悟<sup>6</sup>、井元 清哉<sup>7</sup>、古川 洋一<sup>1</sup> (1東京大・医科研・臨床ゲノム、2東京大・医科研・疾患プロテオミクス、3東京大・工・バイオエンジニアリング、4東京大・医科研・フロンティア外科、5愛知県がんセンター・システム解析、6東京医歯大・M&Dデータ科学セ、7東京大・医科研・健康医療インテリジェンス)
- J-1046** **Enhancement of anti-tumor effect of antibody-drug conjugate in combination with nobiletin and other PMFs**  
Tomoya Masuoka<sup>1</sup>, Takumi Iwasawa<sup>1</sup>, Takayuki Yonezawa<sup>2</sup>, Akio Watanabe<sup>2</sup>, Jetae Woo<sup>2</sup>, Kazunori Kato<sup>1</sup> (1Grad. Sch. Sci. Eng., Toyo Univ., 2Grad. Sch. Biotech., Chubu Univ., 3Jumonji Univ.)  
Nobiletinと新規PMFによる抗体薬物複合体の抗腫瘍増強効果増岡 知也<sup>1</sup>、岩澤 卓弥<sup>1</sup>、米澤 貴之<sup>2</sup>、渡辺 章夫<sup>3</sup>、禹 濟泰<sup>2</sup>、加藤 和則<sup>1</sup> (1東洋大院・理工、2中部大院応用生物、3十文字学園女子大学)
- J-1047** **Novel AMPK activators inhibiting mitochondrial complex I that attack glioblastoma, and colon/lung cancer**  
Susumu Nakata<sup>1</sup>, Naoto Kojima<sup>2</sup> (1Kyoto Pharm. University, Dept. of Clin. Oncology, 2Nagasaki International University, Faculty of Pharm. Sci.)  
膠芽腫、大腸がん、肺がん等に有効性を示すミトコンドリア複合体I阻害を介した新規AMPK活性化剤  
中田 晋<sup>1</sup>、小島 直人<sup>2</sup> (1京都薬科大学 臨床腫瘍学分野、2長崎国際大学 薬学部)
- J-1048** **Dual inhibition of SUMOylation and MEK for MYC-expressing KRAS mutant cancers**  
Hiroshi Kotani, Seiji Yano (Cancer Research Institute of Kanazawa University, Division of Medical Oncology)  
MYC発現型KRAS変異がんに対するSUMO化とMEKの二重阻害  
小谷 浩、矢野 聖二 (金沢大学がん進展制御研究所・腫瘍内科学分野)

**J13** Regulation of cancer cells and tumor microenvironment by cytokines  
サイトカインによるがん細胞と微小環境の制御

Chairperson: Ryuichi Sakai (Dept. Biochem., Kitasato Univ. Sch. Med.)  
座長：堺 隆一 (北里大・医・生化)

- J-1049** **The secretion and enzymatic activity of SOD3 is regulated by core fucosylation in non-small lung cancer cells**  
Yuki Ohkawa<sup>1</sup>, Masato Kitano<sup>1,2</sup>, Kento Maeda<sup>1</sup>, Miyako Nakano<sup>3</sup>, Noriko Kanto<sup>4</sup>, Yasuhiko Kizuka<sup>4</sup>, Masahiro Seike<sup>5</sup>, Arata Azuma<sup>5</sup>, Yoshiki Yamaguchi<sup>6</sup>, Tomomi Ookawara<sup>7</sup>, Eiji Miyoshi<sup>8</sup>, Naoyuki Taniguchi<sup>1</sup> (1Dept. Glyco-Oncology and Medical Biochemistry, OICI, 2Dept. Mol. Biochem., Grad. Sch. of Med., Osaka Univ., 3Grad. Sch. of Integrated Sci. for Life, Hiroshima Univ., 4iGCORE, Gifu Univ., 5Dept. Pulmonary Med. and Oncology, Nippon Medical School, 6Dev. of Structural Glycobiology, Tohoku Medical and Pharm. Univ., 7Labo. of Biochem., Sch. of Pharmacy, Hyogo Medical Univ.)  
コアフコース糖鎖がSOD3の分泌と酵素活性を制御する  
大川 祐樹<sup>1</sup>、北野 真郷<sup>1,2</sup>、前田 賢人<sup>1</sup>、中の 三弥子<sup>3</sup>、貫戸 紀子<sup>1</sup>、木塚 康彦<sup>4</sup>、清家 正博<sup>5</sup>、吾妻 安良太<sup>5</sup>、山口 芳樹<sup>6</sup>、大河原 知水<sup>7</sup>、三善 英知<sup>2</sup>、谷口 直之<sup>1</sup> (1大阪国際がんセンター・糖鎖オンコロジー部、2阪大・医学系研究科・分子生化学、3広島大・大学院統合生命科学研究科、4岐阜大・iGCORE・糖鎖生化学、5日本医大・医学研究科・呼吸器内科、6東北医科薬科大・糖鎖構造生物学、7兵庫医科大学・大学院薬学研究科・医療薬学)
- J-1050** **Endothelial mesenchymal transition (EndoMT) reporter cells visualize stepwise transition of TGF-β-induced EndoMT**  
Kazuki Takahashi<sup>1</sup>, Katsumata Hisae<sup>2</sup>, Miho Kobayashi<sup>3</sup>, Shiori Tokizaki<sup>3</sup>, Yukinori Ikeda<sup>1</sup>, Kentaro Maeda<sup>4</sup>, Katarzyna A. Inoue<sup>5</sup>, Yukiko Matsunaga<sup>1</sup>, Yasuhiro Yoshimatsu<sup>4,5</sup>, Tetsuro Watabe<sup>2,4</sup> (1Inst. Ind. Sci., The Univ. of Tokyo, 2Dept. Biochem., Grad. Sch. Med. Dent., Tokyo Med. & Dent. Univ., 3Dept. Oral & Maxill. Surg. Onc., Tokyo Med. & Dent. Univ., 4Lab. of Onc., Tokyo Univ. of Pharm. Life Sci., 5Div. Pharmacol., Grad. Sch. Med. Dent., Nigata Univ.)  
TGF-βによる内皮間葉移行(EndoMT)の段階的遷移をEndoMTレポーター内皮細胞は可視化した  
高橋 和樹<sup>1</sup>、勝又 寿枝<sup>2</sup>、小林 美穂<sup>2</sup>、時崎 詩織<sup>2,3</sup>、池田 行徳<sup>1</sup>、前田 健太郎<sup>4</sup>、井上 カタジナアンナ<sup>2</sup>、松永 行子<sup>1</sup>、吉松 康裕<sup>4,5</sup>、渡部 徹郎<sup>2,4</sup> (1東大・生研、2東医歯大・院医歯・病態生化学、3東医歯大・院医歯・顎口腔腫瘍外科、4東薬大・院生命・腫瘍医学、5新潟大・院医・薬理学)
- J-1051** **Proximity extracellular protein-protein interaction analysis of EGFR using AirID-conjugated antibody, EGFR-FabID**  
Kohdai Yamada, Tatsuya Sawasaki (PROS Ehime Univ.)  
近接ピオチン化酵素 AirID 融合 EGFR 認識抗体(EGFR-FabID)によるEGFR細胞外相互作用タンパク質の網羅的な解析  
山田 航大、澤崎 達也 (愛媛大学 PROS 無細胞生命科学部門)
- J-1052** **Hypoxia-induced downregulation of sST2 in CRC cells: its molecular mechanisms and role in tumor growth and metastasis**  
Miho Akimoto<sup>1</sup>, Noriyuki Okudaira<sup>1</sup>, Nobuko Koshikawa<sup>2</sup>, Keizo Takenaga<sup>2</sup>, Mimi Adachi<sup>1</sup> (1Dept. Biochem., Teikyo Univ. Sch. of Med., 2Lab. Innov. Cancer Ther., Chiba Cancer Ctr. Res. Inst.)  
大腸がん細胞における低酸素誘導 sST2 発現低下の分子メカニズムと腫瘍増殖と転移における役割の解析  
秋元 美穂<sup>1</sup>、奥平 准之<sup>1</sup>、越川 信子<sup>2</sup>、竹永 啓三<sup>2</sup>、安達 (玉盛) 三美<sup>1</sup> (1帝京大・医・生化、2千葉がんセンター・研・がん先進)
- J-1053** **CCL28 enhances antitumor effects of CTLs by promoting indirect eosinophil infiltration in murine melanoma**  
Kazuhiko Matsuo<sup>1</sup>, Shinya Yamamoto<sup>1</sup>, Akihisa Nishida<sup>1</sup>, Mako Yamasaki<sup>1</sup>, Yuichiro Kaibori<sup>2</sup>, Daisuke Nagakubo<sup>2</sup>, Yuta Hara<sup>1</sup>, Takashi Nakayama<sup>1</sup> (1Div. Chemother., Kindai Univ. Fac. Pharm., 2Div. Health Hygienic Sci., Fac. Pharm. Sci., Himeji Dokkyo Univ.)  
ケモカインCCL28は好酸球のCCL11-CCR3系を介した遊走を促進することでマウスメラノーマに対するCD8陽性CTL応答を増強する  
松尾 一彦<sup>1</sup>、山本 真也<sup>1</sup>、西田 晃尚<sup>2</sup>、山崎 真子<sup>1</sup>、海堀 祐一郎<sup>2</sup>、長久保 大輔<sup>2</sup>、原 雄大<sup>1</sup>、中山 隆志<sup>1</sup> (1近畿大薬・化学療法学、2姫路協大薬・衛生化学)

**J-1054 Inhibition of TGF- $\beta$  signaling suppresses tumorigenesis by regulating tumor microenvironment networks**

Shiori Tokizaki<sup>1,2</sup>, Katarzyna A. Inoue<sup>3</sup>, Kazuki Takahashi<sup>2,3</sup>, Miho Kobayashi<sup>2</sup>, Takehisa Matsumoto<sup>4</sup>, Mikako Shirouzu<sup>5</sup>, Shizuka Uchida<sup>5</sup>, Sadahiro Iwabuchi<sup>6</sup>, Shinichi Hashimoto<sup>6</sup>, Hiroyuki Harada<sup>1</sup>, Kohei Miyazono<sup>7,8</sup>, Tetsuro Watabe<sup>2</sup> (<sup>1</sup>TMDU, Grad. Sch. Med. Dent. Sci., Oral and Maxillofacial Surgery, <sup>2</sup>TMDU, Grad. Sch. Med. Dent. Sci., Biochemistry, <sup>3</sup>Inst. Ind. Sci., The Univ. of Tokyo., <sup>4</sup>RIKEN Ctr. for Biosystems Dynamics Res., <sup>5</sup>Aalborg Univ., Ctr. For RNA Med., Dept. of Clin. Med., <sup>6</sup>Wakayama Med. Univ., Dept. of Mol. Pathol., <sup>7</sup>The Univ. of Tokyo, Grad. Sch. Med., Dept. Applied Pathol., <sup>8</sup>RIKEN Ctr. for Integrative Med. Sci.)

**TGF- $\beta$  シグナルの阻害はがん微小環境ネットワークを制御することで腫瘍形成を抑制する**

時崎 詩織<sup>1,2</sup>、井上 カタジナアンナ<sup>2</sup>、高橋 和樹<sup>2,3</sup>、小林 美穂<sup>2</sup>、松本 武久<sup>4</sup>、白水 美香子<sup>4</sup>、内田 靖哉<sup>5</sup>、岩淵 禎弘<sup>6</sup>、橋本 真一<sup>6</sup>、原田 浩之<sup>1</sup>、宮園 浩平<sup>7,8</sup>、渡部 徹郎<sup>2</sup> (<sup>1</sup>東京医歯大・医歯総・顎口腔、<sup>2</sup>東京医歯大・医歯総・病態生化学、<sup>3</sup>東大・生研、<sup>4</sup>理化学研究所・生命機能科学セ、<sup>5</sup>オーストラリア大学・RNA 医療セ、<sup>6</sup>和歌山医大・先端医学・分子病態解析、<sup>7</sup>東京大学・院医・応用病理学、<sup>8</sup>理化学研究所・生命医科学セ)

IS3

**The comprehensive understanding of cancer genome by integrated whole genome sequencing and epigenome analyses using new technologies**  
全ゲノム解析と新技術エピゲノム解析による包括的ながんゲノムの解明

Chairpersons: Tatsuhiro Shibata (The Inst. of medical science)  
Dr. Bin Tean Teh (Natl. Cancer Ctr. Singapore)

座長：柴田 龍弘 (東京大・医科研・ゲノム医科学分野)  
Dr. Bin Tean Teh (Natl. Cancer Ctr. Singapore)

The Whole Cancer Genome Sequencing Project initiated in Japan has led to the accumulation of large-scale whole-genome data. However, to elucidate mutations and structural abnormalities in non-coding regions, which are expected to be newly discovered by whole-genome analysis, it is essential to understand functional genomic regions such as enhancers, transcriptional regulators, and long non-coding RNAs. Methods such as ChIP-seq and ATACseq, which assess chromatin status, have been incorporated into clinical samples, and the epigenomic status of the entire cancer genome is being clarified through allele-specific methylation analysis by long-read analysis and full-length transcriptome sequencing. In this session, we will focus on new research areas that integrate epigenomic and whole-genome analysis technologies, which are currently advancing rapidly, and invite international researchers, including young scientists, to present their latest research results and discuss the prospects for new cancer genome research starting from whole-genome data.

**IS3-1 Patterns of structural alterations by whole cancer genome sequencing**

Tatsuhiro Shibata<sup>1,2</sup> (<sup>1</sup>Lab. of Molecular Medicine, IMSUT, <sup>2</sup>Div. Cancer Genomics, NCCRI)

**全ゲノム解析による染色体構造異常パターン**

柴田 龍弘<sup>1,2</sup> (<sup>1</sup>東京大学・医科研・ゲノム医科学分野、<sup>2</sup>国立がん研セ・研究所・がんゲノミクス)

**IS3-2 Unravelling the biology of transcoelomic metastases through multi-omic profiling**

Raghav Sundar<sup>1</sup>, Joseph Zhao<sup>1</sup>, Johnny Ong<sup>3</sup>, Daryl Chia<sup>1,2</sup>, Qingfeng Chen<sup>4</sup>, Jeffrey Lum<sup>1</sup>, Jimmy So<sup>1,2,3</sup>, Patrick Tan<sup>2,3,4</sup> (<sup>1</sup>National University Cancer Institute, Singapore, <sup>2</sup>Yong Loo Lin School of Medicine, National University of Singapore, <sup>3</sup>Singapore Gastric Cancer Consortium, Singapore, <sup>4</sup>Agency for Science, Technology and Research (A\*STAR), Singapore)

**IS3-3 Long-read DNA methylation analysis of whole cancer genomes using a nanopore sequencing**

Genta Nagae, Hiroyuki Aburatani (Genome Sci. Med., Res. Cent. Adv. Sci. Tech., Univ. Tokyo)

**ナノポアシーケンサーを用いた癌ゲノムの長鎖 DNA メチル化解析**  
永江 玄太、油谷 浩幸 (東京大・先端研・ゲノムサイエンス)

**IS3-4 Integrated multi-omics analysis using WGS, ChIP-seq, and RNA-seq data for pan-negative lung adenocarcinoma**

Ken Asada<sup>1,2</sup>, Syuzo Kaneko<sup>3</sup>, Ken Takasawa<sup>1,2</sup>, Kouya Shiraiishi<sup>3</sup>, Hidehito Horinouchi<sup>4</sup>, Hiroyuki Yoshida<sup>5</sup>, Masami Mukai<sup>6</sup>, Norio Shinkai<sup>1,2</sup>, Yasushi Yatabe<sup>7</sup>, Takashi Kohno<sup>3</sup>, Ryuji Hamamoto<sup>1,2,8</sup> (<sup>1</sup>Cancer Transl. Res. Team, RIKEN Ctr. for AIP project, <sup>2</sup>Div. Medical AI Res. Dev., Natl. Cancer Ctr. Res. Inst., <sup>3</sup>Div. Genome Biol., Natl. Cancer Ctr. Res. Inst., <sup>4</sup>Dept. Thoracic Oncol., Natl. Cancer Ctr., Hosp., <sup>5</sup>Dept. Thoracic Surg., Natl. Cancer Ctr., Hosp., <sup>6</sup>Div. Medical Info., Natl. Cancer Ctr., Hosp. Dept., <sup>7</sup>NCC Cancer Sci., Tokyo Med. Dent. Univ., <sup>8</sup>Dept. Diagnostic Pathol., Natl. Cancer Ctr. Hosp.)

**全ゲノム・エピゲノム・トランスクリプトームデータを利用した肺がん pan-negative 症例の統合的マルチオミックス解析**

浅田 健<sup>1,2</sup>、金子 修三<sup>2</sup>、高澤 健<sup>1,2</sup>、白石 航也<sup>3</sup>、堀之内 秀仁<sup>4</sup>、吉田 幸弘<sup>5</sup>、向井 まさみ<sup>6</sup>、新海 典夫<sup>1,2</sup>、谷田部 恭<sup>7</sup>、河野 隆志<sup>3</sup>、浜本 隆二<sup>1,2,8</sup> (<sup>1</sup>理研・AIP セ・がん探索医療研究チーム、<sup>2</sup>国立がん研セ・研・医療 AI 研究開発分野、<sup>3</sup>国立がん研セ・研・ゲノム生物、<sup>4</sup>国立がん研セ・中央病院・呼吸器内科、<sup>5</sup>国立がん研セ・中央病院・呼吸器外科、<sup>6</sup>国立がん研セ・中央病院・医療情報、<sup>7</sup>東京医歯大・NCC 腫瘍医科学、<sup>8</sup>国立がん研セ・中央病院・病理診断科)

**IS3-5 Epigenetic Impact of Truncal Mutations in Clear Cell Renal Cell Carcinoma**

Bin T. Teh<sup>1,2</sup> (<sup>1</sup>National Cancer Centre Singapore, Singapore, <sup>2</sup>Duke-NUS Medical School, Singapore)

**IS3-6 Epigenetic reprogramming in anti-cancer drug resistance**  
Jing Tan (Sun Yat-sen University Cancer Center)

Room 9 Sep. 21 (Thu.) 13:40-14:55

E

**E12-1** Immune system in cancer  
がんにおける免疫機構の働きChairperson: Yoshiki Akatsuka (Dep. Immunol., Nagoya Univ. Grad. Sch. Med.)  
座長: 赤塚 美樹 (名古屋大・医・分子細胞免疫学)**E-1055** The roles of immune cells derived from clonal hematopoiesis in colorectal liver metastasisTran B. Nguyen<sup>1</sup>, Yuan J. Duan<sup>3</sup>, Ainhao T. Le<sup>3</sup>, Yen T. Nguyen<sup>3</sup>, Mizuho Nakayama<sup>4</sup>, Masanobu Oshima<sup>5</sup>, Yuya Sasaki<sup>1,2</sup>, Tatsuhiko Sakamoto<sup>2</sup>, Manabu Fujisawa<sup>1</sup>, Shigeru Chiba<sup>1,2</sup>, Mamiko Sakatayanagimoto<sup>1,2</sup> (<sup>1</sup>Dept. of Hematology, Faculty of Med., Univ. of Tsukuba, Japan, <sup>2</sup>Dept. of Hematology, Univ. of Tsukuba Hosp., Japan, <sup>3</sup>Grad. Sch. of Comprehensive Human Sci., Univ. of Tsukuba, Japan, <sup>4</sup>Div. of Genetics, Cancer Res. Inst., Kanazawa Univ., Kanazawa, Japan)**E-1056** Myeloid-intrinsic cell cycle-related kinase drives immunosuppression to promote tumorigenesisJingying Zhou, Huanyu Wang, Alfred Cheng (School of Biomedical Sciences, The Chinese University of Hong Kong)**E-1057** Monocytic MDSCs promote the development of fibrosis-associated hepatocellular carcinoma by inducing PPP1R15AXiaoyu Liu<sup>1,2</sup>, Xiaoyu Liu<sup>1,2</sup>, Man Liu<sup>3</sup>, Haoran Wu<sup>1</sup>, Wenshu Tang<sup>1</sup>, Thomas T. Chan<sup>1</sup>, Lingyun Zhang<sup>1</sup>, Shufen Chen<sup>1</sup>, Joseph J. Sung<sup>4,5</sup>, Jingying Zhou<sup>1</sup>, Alfred S. Cheng<sup>1</sup> (<sup>1</sup>School of Biomedical Sciences, CUHK, Hong Kong, China, <sup>2</sup>Chongqing Cancer Hospital, Chongqing University, Chongqing, China, <sup>3</sup>The First Affiliated Hospital, Sun Yat-Sen University, Guangzhou, China, <sup>4</sup>Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, <sup>5</sup>State Key Laboratory of Digestive Disease, CUHK, Hong Kong, China.)**E-1058** Peripheral blood immunoprofiling reveals five distinct immunotypes with implications for cancer immunotherapy selectionNathan Fowler, Alexander Bagacv, Daniyar Dyikanov, Iris Wang, Tatiana Vasileva, Polina Turova, Arseniy Sokolov, Olga Golubeva, Evgenii Tikhonov, Anna Kamysheva, Ilya Krauz, Linda Balabanian, Ravshan Ataulakhanov, Aleksandr Zaitsev, Michael F. Goldberg (BostonGene, Corp.)**E-1059** Comprehensive analysis of MRI-restricted TCR derived from tumor infiltrating lymphocytes of breast cancer patientsAbdul Hayee<sup>1</sup>, Eiji Kobayashi<sup>1</sup>, Hiroshi Hamana<sup>3</sup>, Satoshi Yamaguchi<sup>1,2</sup>, Ha T. Vietmy<sup>1</sup>, Tatsuhiko Ozawa<sup>1</sup>, Hiroyuki Kishi<sup>1</sup> (<sup>1</sup>Dept. of Immunol., Univ. of Toyama, <sup>2</sup>Dept. of 1st Internal Med., Univ. of Toyama, <sup>3</sup>Thyas Co., Ltd., Kyoto, Japan)**E-1060** Targeting tumor immunosuppressive myeloid cells in mouse Pten-null prostate cancerHirotsugu Uemura<sup>1</sup>, Yurie Kura<sup>2</sup>, Kazutoshi Fujita<sup>1</sup>, Kazuko Sakai<sup>2</sup>, Alwin Schuller<sup>3</sup>, Kris F. Sachsenmeier<sup>3</sup>, Masahiro Nozawa<sup>1</sup>, Kazuhiro Yoshimura<sup>1</sup>, Kazuto Nishio<sup>2</sup>, Marco A. Develasco<sup>2</sup> (<sup>1</sup>Dept. of Urol. Kindai Univ. Faculty of Med., <sup>2</sup>Dept. of Genome Biol. Kindai Univ. Faculty of Med., <sup>3</sup>Oncology R&D, AstraZeneca, Waltham, USA)

## 前立腺癌マウスにおける腫瘍浸潤ミエロイド細胞について

植村 天受<sup>1</sup>、倉 由史恵<sup>2</sup>、藤田 和利<sup>1</sup>、坂井 和子<sup>2</sup>、シュラー アルウィン<sup>3</sup>、サッハセンマイアー クリス<sup>3</sup>、野澤 昌弘<sup>1</sup>、吉村 一宏<sup>1</sup>、西尾 和人<sup>2</sup>、デベラスコ マルコ<sup>2</sup> (<sup>1</sup>近畿大学医学部泌尿器科学教室、<sup>2</sup>近畿大学医学部ゲノム生物学教室、<sup>3</sup>アストラゼネカ)

Room 9 Sep. 21 (Thu.) 14:55-16:10

E

**E12-2** Novel cancer immunotherapeutics  
がん免疫療法の新規開発

Chairperson: Keisuke Watanabe (Div. Cancer Immunology, National Cancer Center)

座長: 渡邊 慶介 (国立がん研究センター 研究所 腫瘍免疫研究分野)

**E-1061** A circular mRNA pipeline toward GPC2-specific monoclonal antibodiesChatbenja Pakirana<sup>1</sup>, Chatbenja Pakirana<sup>1</sup>, Nopporn Jongkamonwiwat<sup>2</sup>, Nitar Sookkrung<sup>3</sup>, Suradej Hongeng<sup>4</sup>, Patompon Wongtrakoonngate<sup>1,5</sup> (<sup>1</sup>Dept. of Biochem., Fac. of Sci., Mahidol Univ., <sup>2</sup>Dept. of Anat., Fac. of Sci., Mahidol Univ., <sup>3</sup>Dept. of Parasitol., Fac. of Med. Siriraj Hosp., Mahidol Univ., <sup>4</sup>Dept. of Pediatrics, Fac. of Med. Ramathibodi Hosp., Mahidol Univ., <sup>5</sup>Ctr. for Neurosci., Fac. of Sci., Mahidol Univ.)**E-1062** Role of homeostatic MHC class I recognition in regulating anti-tumor effector function of mature NK cellKa He, Yui Yamamae, Soichiro Sasaki, Yoshihiro Hayakawa (Inst. of Natural Med., Univ. of Toyama)**E-1063** Preclinical evaluation of macrophage-targeted immunotherapy in vivo using a humanized mouse modelYasuyuki Saito<sup>1</sup>, Tania Afroj<sup>2</sup>, Rie Iida<sup>1</sup>, Satomi Komori<sup>2</sup>, Tomoko Takai<sup>2</sup>, Okechi Oduori<sup>2</sup>, Takenori Kotani<sup>1</sup>, Yuichiro Koma<sup>3</sup>, Yoji Murata<sup>1</sup>, Hiroshi Yokozaki<sup>3</sup>, Takashi Matozaki<sup>1</sup> (<sup>1</sup>Div. Cell. Mol. Signal., Kobe Univ. Grad. Sch. Med., <sup>2</sup>Div. Biosignal Reg., Kobe Univ. Grad. Sch. Med., <sup>3</sup>Dept. Pathology, Kobe Univ. Grad. Sch.)

## マクロファージを標的とした免疫療法のヒト化マウスを用いた in vivo 前臨床評価モデルの確立

齊藤 泰之<sup>1</sup>、アフロズ タニア<sup>2</sup>、飯田 理恵<sup>1</sup>、小森 里美<sup>2</sup>、高井 智子<sup>2</sup>、オドゥオリ オケチ<sup>2</sup>、小谷 武徳<sup>1</sup>、狛 雄一郎<sup>3</sup>、村田 陽二<sup>1</sup>、横崎 宏<sup>3</sup>、的崎 尚<sup>1,2</sup> (<sup>1</sup>神戸大・院医・シグナル統合学、<sup>2</sup>神戸大・院医・生体シグナル制御学、<sup>3</sup>神戸大・院医・病理学)**E-1064** Microglial immune response for brain metastasis associating with annexin A13Misuzu Horikoshi<sup>1</sup>, Takahiro Tsuji<sup>1</sup>, Mariko Shindo<sup>1,2</sup>, Rahadian Y. Hartantyo<sup>1</sup>, Daisuke Kato<sup>1</sup>, Hiroaki Wake<sup>1,2</sup> (<sup>1</sup>Dept. Anat. Mol. Cell Biol., Grad. Sch. Med., Nagoya Univ., <sup>2</sup>Div. Multicellular Circuit Dynamics, Natl. Inst. Physiol. Sci., Okazaki, Japan)アネキシン A13 が関与する転移性脳腫瘍へのミクログリア免疫応答 堀越 水涼<sup>1</sup>、辻 貴宏<sup>1</sup>、進藤 麻理子<sup>1,2</sup>、Rahadian Y. Hartantyo<sup>1</sup>、加藤 大輔<sup>1</sup>、和氣 弘明<sup>1,2</sup> (<sup>1</sup>名古屋大学大学院医学系研究科 分子細胞学、<sup>2</sup>生理学研究所 多細胞回路動態研究部門)**E-1065** Targeting redox regulation system and neutrophils within tumor microenvironmentMinoru Inoue, Genki Sato, Michio Yoshimura, Takashi Mizowaki (Dept. Radiat. Oncol., Grad. Sch. Med., Kyoto Univ.)

## 腫瘍微小環境におけるレドックス制御機構と好中球を標的としたがん治療の可能性

井上 実、佐藤 玄基、吉村 通央、溝脇 尚志 (京都大・院医・放射線腫瘍学)

**E-1066** CD69 controls differentiation of tumor-specific CD8T cells in tumor-draining lymph nodesRyo Nasu, Yangsong Wang, Yukihiko Endo, Ichita Hasegawa, Yukiyo Mita, Shinichiro Motohashi, Toshinori Nakayama, Motoko Kimura (Grad. Sch. Med., Chiba Univ.)

## CD69 は所属リンパ節内において腫瘍特異的 CD8T 細胞の分化を制御する

那須 亮、ワン ヤンソン、遠藤 将大、長谷川 一太、三田 恭義、本橋 新一郎、中山 俊憲、木村 元子 (千葉大・院医)

Room 10 Sep. 21 (Thu.) 13:40-14:55

E

**E11-1** Cancer metabolism (1)  
がんと代謝 (1)

Chairperson: Nobuhiro Tanuma (Div. Cancer Chemother., Miyagi Cancer Ctr. Res. Inst.)

座長: 田沼 延公 (宮城がんせ・研・がん薬物療法)

- E-1067** **HSPB1 promotes cell proliferation by regulating the LLGL2-SLC7A5 complex formation in ER+ breast cancer**  
Yasuhiro Saito, Yukako Suzuki, Tomoyoshi Soga (Inst. Adv. Biosci., Keio Univ.)  
ER陽性乳がん細胞においてHSPB1はLLGL2-SLC7A5複合体形成を介して細胞増殖を促進する  
齋藤 康弘、鈴木 結香子、曾我 朋義 (慶大・先端研)
- E-1068** **Loss of Fe-S cluster biosynthesis causes senescence-like growth arrest in ovarian cancer cells**  
Shuko Miyahara<sup>1,2</sup>, Miyuki Nomura<sup>1</sup>, Youji Yamashita<sup>1</sup>, Nobuhiro Tanuma<sup>1</sup> (1)Div. of Cancer Chemother., Miyagi Cancer Ctr. Res. Inst., (2)Dept. of Gynecol., Tohoku Univ. Grad. Sch. of Med.)  
鉄硫黄クラスター合成欠損が卵巣癌細胞株にもたらす、細胞老化様の増殖停止  
宮原 周子<sup>1,2</sup>、野村 美有樹<sup>1</sup>、山下 洋二<sup>1</sup>、田沼 延公<sup>1</sup> (1)宮城がんせ・研・がん薬物療法、(2)東北大・院・医・婦人科)
- E-1069** **Inadequate catabolism of mannose causes dNTP loss and genomic instability**  
Yoichiro Harada<sup>1</sup>, Yu Mizote<sup>2</sup>, Takehiro Suzuki<sup>3</sup>, Akiyoshi Hirayama<sup>4,5</sup>, Mikako Nishida<sup>6</sup>, Toru Hiratsuka<sup>7</sup>, Yusuke Imagawa<sup>7</sup>, Kento Maeda<sup>1</sup>, Junko Murai<sup>4,8,9</sup>, Eiji Miyoshi<sup>10</sup>, Shigeaki Higasiyama<sup>8,9</sup>, Heiichiro Udono<sup>6</sup>, Naoshi Dohmac<sup>3</sup>, Hideaki Tahara<sup>2</sup>, Naoyuki Taniguchi<sup>1</sup> (1)Dept. Glyco-Oncol. & Med. Biochem., Osaka Intl. Cancer Inst., (2)Dept. Cancer Drug Discov. & Dev., Osaka Intl. Cancer Inst., (3)Biomol. Charact. U., RIKEN CSRS, (4)Inst. Adv. Biosci., Keio Univ., (5)Grad. Sch. Media & Governance, Keio Univ., (6)Dept. Immunol., Okayama Univ. Grad. Sch. Med., Dent. Pharm. Sci., (7)Dept. Oncogenesis & Growth Reg., Osaka Intl. Cancer Inst., (8)Div. Cell Growth & Tumor Reg., Proteo-Sci. Ctr., Ehime Univ., (9)Dept. Biochem. & Mol. Genet., Grad. Sch. Med., Ehime Univ., (10)Dept. Mol. Biochem. & Clin. Invest., Grad. Sch. Med., Osaka Univ.)  
マンノースの代謝不全はdNTPの枯渇とゲノム不安定化を引き起こす  
原田 陽一郎<sup>1</sup>、溝手 雄<sup>2</sup>、鈴木 健裕<sup>3</sup>、平山 明由<sup>4,5</sup>、西田 充香子<sup>6</sup>、平塚 徹<sup>7</sup>、今川 佑介<sup>7</sup>、前田 賢人<sup>1</sup>、村井 純子<sup>4,8,9</sup>、三善 英知<sup>10</sup>、東山 繁樹<sup>7,8,9</sup>、鶴殿 平一郎<sup>6</sup>、堂前 直<sup>3</sup>、田原 秀晃<sup>2</sup>、谷口 直之<sup>1</sup> (1)大阪国際がんせ、糖鎖オノコロジ、(2)大阪国際がんせ、がん創薬、(3)理研 CSRS、生命分子解析U、(4)慶大、先端生命研、(5)慶大、政策・メディア研究科、(6)岡山大、院医歯薬総合 免疫学、(7)大阪国際がんせ、腫瘍増殖制御学、(8)愛媛大プロテオセ、細胞増殖・腫瘍増殖制御、(9)愛媛大、院医、生化学・分子遺伝学、(10)大阪大、院医、生体病態情報科学)
- E-1070** **Mechanism of immuno-metabolism within tumor microenvironments**  
Tsuyoshi Osawa (Nutriomics Onc., RCAST, Univ. of Tokyo)  
腫瘍微小環境における免疫代謝適応システムを介したがん悪性化機構  
大澤 毅 (東大・先端研・ニュートリオミクス腫瘍)
- E-1071** **The mechanism of mitochondrial dynamics regulation via PIPs**  
Sho Aki, Keisuke Maeda, Ryuichi Nakahara, Rika Tsuchida, Tsuyoshi Osawa (Div. of Integrative Nutriomics and Oncology, The Univ. of Tokyo)  
PIPsを介したミトコンドリアダイナミクス制御の新機構  
安藝 翔、前田 啓介、中原 龍一、土田 里香、大澤 毅 (東大先端研 ニュートリオミクス・腫瘍学)
- E-1072** **Activated branched-chain amino acid metabolism regulates the aggressive nature in human triple negative breast cancer**  
Kenkyo Matsuura<sup>1</sup>, Kanon Kondo<sup>1,2</sup>, Itsuki Kuroda<sup>1,2</sup>, Takato Nakano<sup>1,2</sup>, Ririko Shinonaga<sup>1,2</sup>, Mizuki Yamamoto<sup>3</sup>, Junichiro Inoue<sup>3</sup>, Hiromi Imamura<sup>4</sup>, Ayuna Hattori<sup>1</sup>, Takahiro Ito<sup>1</sup> (1)Inst. Life Med. Sci., Kyoto Univ., (2)Grad. Sch. Pharm. Sci., Kyoto Univ., (3)Inst. Med. Sci., Univ. Tokyo, (4)Grad. Sch. Biostudies, Kyoto Univ.)  
分岐鎖アミノ酸代謝によるトリプルネガティブ乳がんの制御  
松浦 顕教<sup>1</sup>、近藤 歡音<sup>1,2</sup>、黒田 逸月<sup>1,2</sup>、中野 隆斗<sup>1,2</sup>、篠永 リリこ<sup>1,2</sup>、山本 瑞生<sup>3</sup>、井上 純一郎<sup>3</sup>、今村 博臣<sup>4</sup>、服部 鮎奈<sup>1</sup>、伊藤 貴浩<sup>1</sup> (1)京大 医学生研、(2)京大 院薬、(3)東大 医科研、(4)京大 院生命)

Room 10 Sep. 21 (Thu.) 14:55-16:10

J

**J11-1** Cancer metabolism (2)  
がんと代謝 (2)

Chairperson: Hideaki Ogiwara (Div. Cancer Therapeutics, NCCRI)

座長: 荻原 秀明 (国がん・研究所・がん治療学)

- J-1055** **HSPB1 promotes the LLGL2-SLC7A5 complex formation by nutrient-stress mediated phosphorylation in ER+ breast cancer**  
Yukako Suzuki, Tomoyoshi Soga, Yasuhiro Saito (Inst. Adv. Biosci., Keio Univ.)  
ER陽性乳がん細胞において栄養ストレス依存的なHSPB1のリン酸化はLLGL2-SLC7A5複合体形成を促進する  
鈴木 結香子、曾我 朋義、齋藤 康弘 (慶大・先端研)
- J-1056** **FAXC promotes tumor development in cholangiocarcinoma**  
Haruna Fujimori<sup>1</sup>, Shinichiro Kanno<sup>2</sup>, Rie Takahashi<sup>1</sup>, Mai Mochizuki<sup>1</sup>, Norihisa Shindo<sup>3</sup>, Kazunori Yamaguchi<sup>3</sup>, Jun Yasuda<sup>3</sup>, Keiichi Tamai<sup>1</sup> (1)Div. Cancer Stem Cell, Miyagi Cancer Ctr. Res. Inst., (2)Dept. of Mol. Path., IDAC, Tohoku Univ., (3)Div. Mol. & Cell. Oncol., Miyagi Cancer Ctr. Res. Inst.)  
FAXCは胆管癌の腫瘍形成に寄与する  
藤盛 春奈<sup>1</sup>、菅野 新一郎<sup>2</sup>、高橋 莉恵<sup>1</sup>、望月 麻衣<sup>1</sup>、進藤 軌久<sup>3</sup>、山口 豊範<sup>3</sup>、安田 純<sup>3</sup>、玉井 恵一<sup>1</sup> (1)宮城がんせ研・がん幹細胞、(2)東北大・加齢研・分子腫瘍学、(3)宮城がんせ研・発がん制御)
- J-1057** **Tissue specificity of PTBP1-targeting microRNA-216b-5p and behavior during carcinogenesis**  
Shigenori Suzuki<sup>1</sup>, Kohei Taniguchi<sup>2</sup>, Yosuke Inomata<sup>1</sup>, Tsuyohisa Tokumaru<sup>3</sup>, Jun Arima<sup>1</sup>, Yuko Ito<sup>1</sup>, Lee Sangwoong<sup>1</sup> (1)Osaka Med. & Pharm. Univ. Dept. of Surg., (2)Translational Res. Program, Osaka Med. & Pharm. Univ., (3)Dept. of Surg. Oncology, Grad School of Med. Gifu Univ)  
PTBP1 標的 microRNA-216b-5p の組織特異性と発がん過程の挙動  
鈴木 重徳<sup>1</sup>、谷口 高平<sup>2</sup>、猪俣 陽介<sup>1</sup>、徳丸 剛久<sup>3</sup>、有馬 純<sup>1</sup>、伊藤 裕子<sup>1</sup>、李 相雄<sup>1</sup> (1)大阪医科大学 消化器外科、(2)大阪医科大学 TR 部門、(3)岐阜大学 医学研究科 腫瘍外科)
- J-1058** **Certain lipid molecules identified by metabolome analysis promotes the cell proliferation of epithelial ovarian cancer**  
Hitomi Mukaida, Kosuke Hiramatsu, Mariya Kobayashi, Yuji Kamei, Yoshikazu Nagase, Satoshi Nakagawa, Toshihiro Kimura, Yutaka Ueda, Tadashi Kimura (Osaka University)  
メタボローム解析で同定した脂質分子は上皮性卵巣癌の腫瘍増殖促進に関与する  
向田 仁美、平松 宏祐、小林 まりや、亀井 裕史、永瀬 慶和、中川 慧、木村 敏啓、上田 豊、木村 正 (大阪大学)
- J-1059** **Proliferative Giant/Multi-Nucleated cancer cells promote tumor progression by cooperating with fibroblasts**  
Go Itoh<sup>1</sup>, Masakazu Yashiro<sup>2</sup>, Masamitsu Tanaka<sup>1</sup> (1)Dept. Mol. Med. & Biochem. Akita Univ. Grad. Medicine, (2)Dept. Surg. Oncology, Osaka City Univ. Grad. Medicine)  
増殖性の巨核・多核癌細胞は線維芽細胞と協力して腫瘍の進行を促進する  
伊藤 剛<sup>1</sup>、八代 正和<sup>2</sup>、田中 正光<sup>1</sup> (1)秋田大・医学系研究科・分子生化学、(2)大阪公立大・医学研究科・臨床医科学専攻)
- J-1060** **Targeting 2-OG metabolism in RB1-SUCLA2 deficiency in advanced prostate cancer**  
Susumu Kohno, Chiaki Takahashi (Div. Oncol. Mol. Biol., Cancer Res. Inst., Kanazawa Univ.)  
2-OG代謝を標的としたRB-SUCLA2欠失前立腺がん治療法の確立  
河野 晋、高橋 智聡 (金沢大 がん研 腫瘍分子)

**Breakthrough approaches deciphering carcinogenesis or progression of CRC**

大腸発がんおよびがん進展を解明するブレイクスルー研究

Chairperson: Hiroya Taniguchi (Department of Clinical Oncology, Aichi Cancer Center Hospital)

座長：谷口 浩也 (愛知県がんセンター 薬物療法部)

**E-1073 Paneth-like cells originate from OLFM4+ stem cells and support the growth of these cells in advanced colorectal cancer**Satoshi Nagayama<sup>1,2</sup>, Mizuho Sakahara<sup>2</sup>, Takuya Okamoto<sup>2,3</sup>, Yutaka Suzuki<sup>3</sup>, Kazutaka Obama<sup>2</sup>, Ryoji Yao<sup>2</sup> (<sup>1</sup>Dept. Surg., Uji-Tokusyukai Medical Center, <sup>2</sup>Dept. Cell Biol., Cancer Institute, JFCR, <sup>3</sup>Dept. Surg., Graduate School of Medicine, Kyoto University, <sup>4</sup>Dept. Computational Biology and Medical Sciences, Frontier Sciences, Tokyo Univ)

大腸癌における Paneth 様細胞は OLFM4 陽性幹細胞から派生し、同細胞の増殖を支持する

長山 聡<sup>1,2</sup>, 坂原 瑞穂<sup>2</sup>, 岡本 拓也<sup>2,3</sup>, 鈴木 稜<sup>4</sup>, 小濱 和貴<sup>3</sup>, 八尾 良司<sup>2</sup> (<sup>1</sup>宇治徳洲会病院・外科, <sup>2</sup>がん研究会・細胞生物部, <sup>3</sup>京都大学・消化管外科, <sup>4</sup>東京大学・新領域創成科学研究科)**E-1074 Genetic classification and risk stratification of colorectal cancer**Yoshikage Inoue<sup>1,2</sup>, Nobuyuki Kakiuchi<sup>1</sup>, Yasuhito Nanya<sup>8</sup>, Kenichi Yoshida<sup>2</sup>, Yasuhide Takeuchi<sup>1</sup>, Youichi Fujii<sup>9</sup>, Kenichi Chiba<sup>3</sup>, Yuichi Shiraiishi<sup>3</sup>, Tetsuichi Yoshizato<sup>6</sup>, Youku Tanaka<sup>7</sup>, Satoshi Nagayama<sup>2,4</sup>, Satoru Miyano<sup>7</sup>, Kazutaka Obama<sup>2</sup>, Seishi Ogawa<sup>1</sup> (<sup>1</sup>Dept. Tumor Biology, Kyoto Univ., Sch. Med., <sup>2</sup>Dept. GI Surg., Kyoto Univ., Sch. Med., <sup>3</sup>C-CAT, National Cancer Ctr., <sup>4</sup>Dept. GI Surg., Uji-Tokushukai Med. Ctr., <sup>5</sup>Wellcome Sanger Inst., <sup>6</sup>Karolinska Inst., <sup>7</sup>M&D Data Science Ctr., TMD Univ., <sup>8</sup>Dept. Hematology Oncology, Univ. Tokyo, Sch. Med., <sup>9</sup>Dept. Urology, Univ. Tokyo, Sch. Med.)

大腸癌の分子分類および予後予測リスク分類

井上 善景<sup>1,2</sup>, 垣内 伸之<sup>1</sup>, 南谷 泰仁<sup>8</sup>, 吉田 健一<sup>5</sup>, 竹内 康英<sup>1</sup>, 藤井 陽一<sup>9</sup>, 千葉 健一<sup>3</sup>, 白石 友一<sup>3</sup>, 吉里 哲一<sup>6</sup>, 田中 洋子<sup>7</sup>, 長山 聡<sup>2,4</sup>, 宮野 悟<sup>7</sup>, 小濱 和貴<sup>2</sup>, 小川 誠司<sup>1</sup> (<sup>1</sup>京大・医・腫瘍生物学, <sup>2</sup>京大・医・消化管外科, <sup>3</sup>国立がん研究センター, <sup>4</sup>宇治徳洲会病院, <sup>5</sup>サンガー研究所, <sup>6</sup>カロリンスカ研究所, <sup>7</sup>東京医科歯科大, <sup>8</sup>東大・医・血液腫瘍内科, <sup>9</sup>東大・医・泌尿器科)**E-1075 MUC1-C is a master regulator of MICA/B NKG2D ligand and exosome secretion in human cancer cells**Yoshihiro Morimoto<sup>1,2</sup>, Nami Yamashita<sup>2</sup>, Tatsuaki Daimon<sup>2</sup>, Naoki Haratake<sup>2</sup>, Donald Kufe<sup>2</sup> (<sup>1</sup>Kinan hospital, department of surgery, <sup>2</sup>Department of Medical Oncology, Dana-Farber Cancer Institute)

MUC1-Cは癌細胞においてMICA/Bの発現とエクソソームの分泌を制御する

森本 祥悠<sup>1,2</sup>, 山下 奈真<sup>2</sup>, 大門 達明<sup>2</sup>, 原武 直紀<sup>2</sup>, キーフ ドナルド<sup>2</sup> (<sup>1</sup>紀南病院 外科, <sup>2</sup>ダナファーマー癌研究所)**E-1076 Regnase-1 inhibits colon tumor growth by regulating IL-17 signaling via degradation of *Nfkbiz* mRNA**

Eriko Iguchi, Atsushi Takai, Hiroshi Seno (Dept. Gastroenterol. &amp; Hepatol., Grad. Sch. Med., Kyoto Univ.)

Regnase-1は *Nfkbiz* mRNA を分解し IL-17 signaling を制御することで大腸腫瘍の発育を抑制する

井口 恵里子, 高井 淳, 妹尾 浩 (京都大・消化器内科)

**E-1077 The effect of cGAS-STING pathway on the infiltration of CD8+ T cells and clinical outcomes in pMMR/MSS colorectal cancer**Shotaro Nakajima<sup>1,2</sup>, Akinao Kaneta<sup>2</sup>, Hirokazu Okayama<sup>2</sup>, Tomohiro Kikuchi<sup>2</sup>, Eisei Endo<sup>2</sup>, Takuro Matsumoto<sup>2</sup>, Mei Sakuma<sup>3</sup>, Kosaku Mimura<sup>2,3</sup>, Motonobu Saito<sup>2</sup>, Zenichiro Saze<sup>2</sup>, Wataru Sakamoto<sup>2</sup>, Hisashi Onozawa<sup>2</sup>, Tomoyuki Momma<sup>2</sup>, Koji Kono<sup>1,2</sup> (<sup>1</sup>Dept. Multidisciplinary Treatment of Cancer and Regional Medical Support, FMU, <sup>2</sup>Department of Gastrointestinal Tract Surgery, Fukushima Medical University, <sup>3</sup>Department of Blood Transfusion and Transplantation Immunology, Fukushima Medical University)

腫瘍細胞内 cGAS-STING 経路が pMMR/MSS 大腸癌の CD8+T 細胞浸潤や予後に及ぼす影響

中嶋 正太郎<sup>1,2</sup>, 金田 晃尚<sup>2</sup>, 岡山 洋和<sup>2</sup>, 菊池 智宏<sup>2</sup>, 遠藤 英成<sup>2</sup>, 松本 拓朗<sup>2</sup>, 佐久間 芽衣<sup>2</sup>, 三村 耕作<sup>2,3</sup>, 齋藤 元伸<sup>2</sup>, 佐瀬 善一郎<sup>2</sup>, 坂本 涉<sup>2</sup>, 小野澤 寿志<sup>2</sup>, 門馬 智之<sup>2</sup>, 河野 浩二<sup>1,2</sup> (<sup>1</sup>福島県立医科大学 癌集学的治療地域支援講座, <sup>2</sup>福島県立医科大学消化管外科学講座, <sup>3</sup>福島県立医科大学輸血・移植免疫学講座)**E-1078 ECM-niche dependent plasticity controls the acquisition of invasive phenotype in colorectal cancer**Nobuhiko Ogasawara<sup>1</sup>, Yoshihito Kano<sup>2</sup>, Sakurako Kobayashi<sup>1</sup>, Satoshi Watanabe<sup>1</sup>, Sakura Kirino<sup>1</sup>, Ichiroh Onishi<sup>1</sup>, Shinichi Yamauchi<sup>1</sup>, Yui Hiraguri<sup>1</sup>, Go Ito<sup>3</sup>, Mamoru Watanabe<sup>3</sup>, Yusuke Kinugasa<sup>4</sup>, Kenichi Ohashi<sup>6</sup>, Ryuichi Okamoto<sup>1</sup>, Shiro Yui<sup>7</sup> (<sup>1</sup>Department of Gastroenterology and Hepatology, TMDU, <sup>2</sup>Department of Clinical Oncology, TMDU, <sup>3</sup>Department of Diagnostic Pathology, TMDU, <sup>4</sup>Department of Gastrointestinal Surgery, TMDU, <sup>5</sup>Advanced Research Institute, TMDU, <sup>6</sup>Department of Human Pathology, TMDU, <sup>7</sup>Center for Stem Cell and Regenerative Medicine, TMDU)大腸癌における細胞外基質依存性の可塑性誘導と高悪性度形質の関係  
小笠原 暢彦<sup>1</sup>, 加納 嘉人<sup>2</sup>, 小林 桜子<sup>1</sup>, 渡辺 諭<sup>1</sup>, 桐野 桜<sup>1</sup>, 大西 威一郎<sup>3</sup>, 山内 慎一<sup>4</sup>, 平栗 優衣<sup>5</sup>, 伊藤 剛<sup>5</sup>, 渡辺 守<sup>5</sup>, 絹笠 祐介<sup>4</sup>, 大橋 健一<sup>6</sup>, 岡本 隆一<sup>1</sup>, 油井 史郎<sup>7</sup> (<sup>1</sup>東京医科歯科大学消化器病態学, <sup>2</sup>東京医科歯科大学臨床腫瘍学, <sup>3</sup>東京医科歯科大学病院病理部, <sup>4</sup>東京医科歯科大学消化管外科学, <sup>5</sup>東京医科歯科大学高等研究院, <sup>6</sup>東京医科歯科大学人体病理学, <sup>7</sup>東京医科歯科大学再生医療研究センター)

**J14-2 Researches and clinics for CRC in the post-genome era**  
 ポストゲノム時代における大腸がんの臨床と研究

Chairperson: Yoshifumi Baba (Dept of Gastroenterological surgery, Kumamoto university hospital)

座長: 馬場 祥史 (熊本大学 消化器外科)

**J-1061 Multi-omics biomarkers for the efficacy of adjuvant chemotherapy in patients with stage III colorectal cancer**

Erika Machida<sup>1,2</sup>, Yasuyuki Takamizawa<sup>1,3</sup>, Daisuke Takayanagi<sup>1,4,5</sup>, Hourin Cho<sup>1,6</sup>, Dai Shida<sup>3,7</sup>, Masayoshi Yamada<sup>8</sup>, Yuka Asami<sup>1</sup>, Ryuji Hamamoto<sup>9</sup>, Yukihide Kanemitsu<sup>1</sup>, Takashi Kohno<sup>1</sup>, Atsuo Takashima<sup>10</sup>, Shigeki Sekine<sup>11</sup>, Kouya Shiraishi<sup>1</sup> (1)Div. of Genome Biology, National Cancer Center Res. Inst., (2)Dept. of Surgery, Saitama Medical center, Jichi Medical Univ., (3)Dept. of Colorectal Surgery, National Cancer Center Hosp., (4)Clinical Research Inst. for Clinical Pharmacology and Therapeutics, Showa Univ., (5)Div. of Medical Oncology, Showa Univ. School of Medicine, (6)Dept. of Genetic Medicine and Services, National Cancer Center Hosp., (7)Dept. of Surgery, Inst. of Medical Science, University of Tokyo, (8)Endoscopy Div., National Cancer Center Hosp., (9)Div. of Medical AI Research and Development, National Cancer Center, (10)Dept. of Gastrointestinal Medical Oncology, National Cancer Center Hosp., (11)Div. of Molecular Pathology, National Cancer Center Research Inst.)

**Stage III 大腸癌における術後補助化学療法の効果予測に有用なマルチオミクスバイオマーカーの検索**

町田 枝里華<sup>1,2</sup>, 高見澤 康之<sup>1,3</sup>, 高柳 大輔<sup>1,4,5</sup>, 張 萌琳<sup>1,6</sup>, 志田 大<sup>3,7</sup>, 山田 真善<sup>8</sup>, 朝見 友香<sup>1</sup>, 浜本 隆二<sup>9</sup>, 金光 幸秀<sup>3</sup>, 河野 隆志<sup>1</sup>, 高島 淳生<sup>10</sup>, 関根 茂樹<sup>11</sup>, 白石 航也<sup>1</sup> (1)国立がんセンター研究所 ゲノム生物学分野, (2)自治医大さいたま医療センター 消化器外科, (3)国立がんセンター中央病院 大腸外科, (4)昭和大学臨床薬理研究所 臨床腫瘍診断学, (5)昭和大学医学部 腫瘍内科, (6)国立がんセンター中央病院 遺伝子診療部門, (7)東京大学医科学研究所附属病院 外科, (8)国立がんセンター中央病院 内視鏡科, (9)国立がんセンター 医療 AI 研究開発分野, (10)国立がんセンター中央病院 消化器内科, (11)国立がんセンター研究所 分子病理分野)

**J-1062 Withdrawn**
**J-1063 Downregulation of SMOC1 is associated with progression of colorectal traditional serrated adenomas**

Hironori Aoki<sup>1,2</sup>, Akira Takasawa<sup>3</sup>, Eiichiro Yamamoto<sup>1</sup>, Takeshi Niinuma<sup>1</sup>, Hiroo Yamano<sup>4</sup>, Taku Harada<sup>1</sup>, Toshiyuki Kubo<sup>1</sup>, Hiroshi Kitajima<sup>1</sup>, Masahiro Kai<sup>1</sup>, Hiroshi Nakase<sup>4</sup>, Tamotsu Sugai<sup>5</sup>, Makoto Osana<sup>1</sup>, Hiromu Suzuki<sup>1</sup> (1)Dept. Mol. Biol., Sapporo Med. Univ. Sch. Med., (2)Dept. Gastroenterol., Koyukai Shin-Sapporo Hosp., (3)Dept. Pathol., Sapporo Med. Univ. Sch. Med., (4)Dept. Gastroenterol., Hepatol., Sapporo Med. Univ. Sch. Med., (5)Dept. Mol. Diag. Pathol., Iwate Med. Univ. Sch. Med.)

**SMOC1 のダウンレギュレーションは大腸鋸歯状腺腫の進展と関連する**

青木 敬則<sup>1,2</sup>, 高澤 啓<sup>3</sup>, 山本 英一郎<sup>1</sup>, 新沼 猛<sup>1</sup>, 山野 泰穂<sup>4</sup>, 原田 拓<sup>1</sup>, 久保 俊之<sup>1</sup>, 北嶋 洋志<sup>1</sup>, 甲斐 正広<sup>1</sup>, 仲瀬 裕志<sup>4</sup>, 菅井 有<sup>5</sup>, 小山内 誠<sup>3</sup>, 鈴木 拓<sup>1</sup> (1)札幌医大・医・分子生物, (2)交雄会新さっぽろ病院・消化器内科, (3)札幌医大・医・病理, (4)札幌医大・医・消化器内科, (5)岩手医大・医・病理診断)

**J-1064 The association between highly-methylated colorectal cancer and gut microbiota**

Tatsushi Saito<sup>1,2</sup>, Hideaki Karasawa<sup>1,2</sup>, Kota Ouchi<sup>3,4</sup>, Yuuri Hatsuzawa<sup>1,2</sup>, Tomoyuki Ono<sup>1,2</sup>, Minoru Kobayashi<sup>1,2</sup>, Hideyuki Suzuki<sup>1,2</sup>, Taiki Kajiwarai<sup>1,2</sup>, Shinobu Ohnuma<sup>1,2</sup>, Chikashi Ishioka<sup>3,4</sup>, Michiaki Unno<sup>1,2</sup> (1)Dept. of Surgery, Grad.Sch. of Med., Tohoku Univ., Miyagi, Japan., (2)Dept. of Surgery, Tohoku Univ. Hosp., Miyagi, Japan., (3)Dept. of Med. Oncology, IDAC, Tohoku Univ., Miyagi, Japan., (4)Dept. of Med Oncology, Tohoku Univ. Hosp., Miyagi, Japan.)

**高メチル化大腸癌と腸内細菌の関係**

齋藤 達<sup>1</sup>, 唐澤 秀明<sup>1,2</sup>, 大内 康太<sup>3,4</sup>, 初沢 悠人<sup>1,2</sup>, 小野 智之<sup>1,2</sup>, 小林 実<sup>1,2</sup>, 鈴木 秀幸<sup>1,2</sup>, 梶原 大輝<sup>1,2</sup>, 大沼 忍<sup>1,2</sup>, 石岡 千加史<sup>3,4</sup>, 海野 倫明<sup>1,2</sup> (1)東北大学医学系研究科 消化器外科学分野, (2)東北大学病院 総合外科, (3)東北大学加齢医学研究所 臨床腫瘍学分野, (4)東北大学病院 腫瘍内科)

**J-1065 TPX2-amplified is a biomarker of oxaliplatin-sensitivity of colorectal cancers (CRCs) with CIN phenotype**

Shohei Ueno<sup>1</sup>, Taichi Isobe<sup>2</sup>, Ryosuke Taguchi<sup>1</sup>, Kenji Tsuchihashi<sup>1</sup>, Koichi Akashi<sup>1</sup>, Eishi Baba<sup>2</sup> (1)Dept. Med. & Biosystemic Sci., Kyushu Univ. Faculty of Med., (2)Dept. Oncology & Social Med., Grad. Sch. Med. Sci., Kyushu Univ.)

**TPX2 の増幅は CIN フェノタイプの 大腸癌のオキサリプラチン感受性のバイオマーカーである**

上野 翔平<sup>1</sup>, 磯部 大地<sup>2</sup>, 田口 綾祐<sup>1</sup>, 土橋 賢司<sup>1</sup>, 赤司 浩一<sup>1</sup>, 馬場 英司<sup>2</sup> (1)九州大・院・病態修復内科, (2)九州大・院・連携社会医学分野)

**J-1066 Reverse-Phase Protein Array for Proteo-Epigenomic Profiling of Colorectal Cancer Patient-Derived Organoids**

Shota Takeda<sup>1</sup>, Taisuke Shiokawa<sup>2,3</sup>, Toru Aoyama<sup>1</sup>, Kenichi Yoshioka<sup>1</sup>, Koji Okamoto<sup>2,4</sup>, Mari Masuda<sup>5</sup> (1)Natl. Cancer Ctr. Res. Inst. Lab of Genome Stability Maintenance, (2)Natl. Cancer Ctr. Res. Inst. Div. of Cancer Differentiation, (3)Ehime Univ. Hosp. Translational Res. Ctr., (4)Teikyo Univ. Advanced Comprehensive Res. Organization, (5)Natl. Cancer Ctr. Res. Inst. Dept. of Proteomics)

**逆相タンパクアレイを用いた大腸がん患者由来オルガノイドのプロテオーム解析**

武田 翔太<sup>1</sup>, 塩川 大介<sup>2,3</sup>, 青山 徹<sup>1</sup>, 吉岡 研一<sup>1</sup>, 岡本 康司<sup>2,4</sup>, 増田 万里<sup>5</sup> (1)国立がん研セ・研・細胞情報・ゲノム安定性, (2)国立がん研セ・研・がん細胞システム研究, (3)愛媛大学医・病院・先端医療創生センター, (4)帝京大学先端総合研究機構, (5)国立がん研セ・研・プロテオーム解析部門)

Chairperson: Hiroyuki Seimiya (Div. Mol. Biother., JFCR Cancer Chemother. Ctr.)

座長: 清宮 啓之 (がん研・化療セ・分子生物治療)

**J-1067 HMGCS2 Induces resistance to NTRK inhibitors via mevalonate pathway.**

Yasuhiro Kato, Masaru Matsumoto, Natsuki Takano, Makiko Hirao, Kuniko Matsuda, Takehiro Tozuka, Naomi Onda, Shinji Nakamichi, Susumu Takeuchi, Akihiko Miyahara, Rintaro Noro, Akihiko Gemma, Masahiro Seike (Department of Pulmonary Medicine and Oncology, Nippon Medical School)

HMGCS2によるメバロン酸経路を介したNTRK阻害薬に対する耐性誘導とその克服

加藤 泰裕、松本 優、高野 夏希、平尾 真季子、松田 久仁子、戸塚 猛大、恩田 直美、中道 真仁、武内 進、宮永 晃彦、野呂 林太郎、弦間 昭彦、清家 正博 (日本医科大学呼吸器内科)

**J-1068 Combating acquired resistance to KRAS inhibitors in NSCLC by targeting PTPRR-mediated activation of EGFR signaling**

Hiroaki Kanemura<sup>1</sup>, Toshiyuki Takehara<sup>2</sup>, Yuta Onodera<sup>2</sup>, Takeshi Teramura<sup>2</sup>, Shinichiro Suzuki<sup>1</sup>, Kazuko Sakai<sup>2</sup>, Kazuto Nishio<sup>3</sup>, Kazuhiko Nakagawa<sup>1</sup>, Hidetoshi Hayashi<sup>1</sup>, Kimio Yonesaka<sup>1</sup>

(<sup>1</sup>Department of Medical Oncology, Kindai University Faculty of Medicine, <sup>2</sup>Division of Cell Biology for Regenerative Medicine, Kindai University, <sup>3</sup>Department of Genome Biology, Kindai University)

PTPRRを介したEGFR活性化に起因するKRASG12C阻害薬耐性の克服

金村 宙昌<sup>1</sup>、竹原 俊幸<sup>2</sup>、小野寺 勇太<sup>2</sup>、寺村 岳士<sup>2</sup>、鈴木 慎一郎<sup>1</sup>、坂井 和子<sup>3</sup>、西尾 和人<sup>3</sup>、中川 和彦<sup>1</sup>、林 秀敏<sup>1</sup>、米阪 仁雄<sup>1</sup> (近畿大学医学部内科学腫瘍内科部門、<sup>2</sup>近畿大学高度先端総合医療センター、<sup>3</sup>近畿大学医学部ゲノム生物学教室)

**J-1069 Clusterin is involved in the refractory response of pancreatic cancer cells to a MAP kinase inhibitor**

Naoki Hijiya, Yoshiyuki Tsukamoto, Shusaku Kurogi, Chisato Nakada, Masatsugu Moriyama (Oita Univ., Faculty of Med., Dept. of Mol. Path.)

Clusterinは膵癌細胞のMAPキナーゼ不応性に関与する

混谷 直樹、塚本 善之、黒木 秀作、中田 知里、守山 正胤 (大分大学・医・分子病理)

**J-1070 Prediction for oxaliplatin-induced liver injury using patient-derived liver organoids**

Kumiko Tatsumi<sup>1,2</sup>, Hiroshi Wada<sup>3</sup>, Shinichiro Hasegawa<sup>3</sup>, Kei Asukai<sup>3</sup>, Shigenori Nagata<sup>4</sup>, Tomoya Ekawa<sup>1</sup>, Takashi Akazawa<sup>1</sup>, Yu Mizote<sup>1</sup>, Shintaro Okumura<sup>2</sup>, Ryosuke Okamura<sup>2</sup>, Masayuki Ohue<sup>1</sup>, Kazutaka Obama<sup>2</sup>, Hideaki Tahara<sup>1</sup> (<sup>1</sup>Dept. Cancer Drug Discovery & Development, Osaka International Cancer Inst., <sup>2</sup>Dept. Surg., Grad. Sch. Med., Kyoto Univ., <sup>3</sup>Dept. Digestive Surg., Osaka International Cancer Inst., <sup>4</sup>Dept. Diagnostic Path. & Cytology, Osaka International Cancer Inst.)

患者由来の肝臓オルガノイドを用いたオキサリプラチン誘発性肝障害の予測

辰己 久美子<sup>1,2</sup>、和田 浩志<sup>3</sup>、長谷川 慎一郎<sup>3</sup>、飛鳥井 慶<sup>3</sup>、長田 盛典<sup>4</sup>、江川 智哉<sup>1</sup>、赤澤 隆<sup>1</sup>、溝手 雄<sup>1</sup>、奥村 慎太郎<sup>2</sup>、岡村 亮輔<sup>2</sup>、大植 雅之<sup>1</sup>、小濱 和貴<sup>2</sup>、田原 秀晃<sup>1</sup> (大阪国際がんセ・研・がん創薬、<sup>2</sup>京都大・院医・消化管外、<sup>3</sup>大阪国際がんセ・消化器外、<sup>4</sup>大阪国際がんセ・病理・細胞診断)

**J-1071 Investigation of drug combination therapy targeting glioblastoma stem cell and differentiated glioblastoma cell**

Shuishiro Hirano, Atsuhito Uneda, Yoshihiro Otani, Tsuyoshi Umeda, Madoka Hokama, Yohei Inoue, Ryoji Imoto, Ryo Mizuta, Yasuhito Kegoya, Yasuki Suruga, Naoya Kemmotsu, Joji Ishida, Kentaro Fujii, Takao Yasuhara, Isao Date (Department of Neurological Surgery, Okayama University Hospital)

膠芽腫幹細胞と分化型膠芽腫細胞を同時標的とした薬剤併用療法の検討

平野 秀一郎、畝田 篤仁、大谷 理浩、梅田 剛志、外間 まどか、井上 陽平、井本 良二、水田 亮、家護谷 泰仁、駿河 和城、劔持 直也、石田 穰治、藤井 謙太郎、安原 隆雄、伊達 勲 (岡山大学病院 脳神経外科)

**J-1072 Investigation of biomarkers by multiplex immunohistochemistry for nivolumab monotherapy in SCCHN.**

Yuta Hoshi<sup>1</sup>, Tomohiro Enokida<sup>1</sup>, Okumura Genki<sup>2</sup>, Nobukazu Tanaka<sup>1</sup>, Susumu Okano<sup>1</sup>, Takao Fujisawa<sup>1</sup>, Naohiro Takeshita<sup>1</sup>, Ryutarō Onaga<sup>1</sup>, Shohei Koyama<sup>1</sup>, Shingo Sakashita<sup>3</sup>, Takeshi Shinozaki<sup>4</sup>, Kazuto Matuura<sup>3</sup>, Ryuichi Hayashi<sup>3</sup>, Hiroyoshi Nishikawa<sup>2</sup>, Makoto Tahara<sup>1</sup> (<sup>1</sup>Head and Neck Medical Oncology, National Cancer Center Hospital East, <sup>2</sup>Division of Cancer Immunology, EPOC, National Cancer Center, <sup>3</sup>Division of Pathology, EPOC, National Cancer Center, <sup>4</sup>Head and Neck Surgery, National Cancer Center Hospital East)

頭頸部扁平上皮がんに対するニボルマブ単剤治療の多重免疫染色を用いたバイオマーカー探索

星 裕太<sup>1</sup>、榎田 智弘<sup>1</sup>、奥村 元紀<sup>2</sup>、田中 伸和<sup>1</sup>、岡野 晋<sup>1</sup>、藤澤 孝夫<sup>1</sup>、竹下 直宏<sup>1</sup>、翁長 龍太郎<sup>1</sup>、小山 正平<sup>1</sup>、坂下 信悟<sup>3</sup>、篠崎 剛<sup>4</sup>、松浦 一登<sup>3</sup>、林 隆一<sup>3</sup>、西川 博嘉<sup>2</sup>、田原 信<sup>1</sup> (国立がん研究センター東病院頭頸部内科、<sup>2</sup>国立がん研究センター EPOC 免疫 TR 分野、<sup>3</sup>国立がん研究センター EPOC 臨床腫瘍病理分野、<sup>4</sup>国立がん研究センター東病院頭頸部外科)

E3

**Virus and cancer**  
 ウイルスとがん

Chairperson: Aya Ushiku (Div. Integrative Genomics, Tokyo Univ., Sch. Med.)  
 座長: 牛久 綾 (東大・医・統合ゲノム学)

- E-1079 Immune Restoration in ATL Patients After Anti-CCR4 mAb Treatment**  
 Osama Hussein, Junichirou Yasunaga, Kosuke Toyoda, Masao Matsuoka (Department of Haematology, Rheumatology, and Infectious Diseases, Kumamoto University.)
- E-1080 Contribution of human-viral hybrid ecDNA accumulation to the cancer life cycle and potential for novel targeted therapy**  
 Takuya Nakagawa<sup>1,2</sup>, Jens Luebeck<sup>3</sup>, Joshua Lange<sup>4</sup>, Kaiyuan Zhu<sup>3</sup>, Chad Phillips<sup>2</sup>, Paul Mischel<sup>4</sup>, Vineet Bafna<sup>3</sup>, Joseph Califano<sup>2</sup> (<sup>1</sup>Chiba Univ. Hosp. Oto., <sup>2</sup>UC San Diego Moores Cancer Ctr., <sup>3</sup>UC San Diego, Dept. Computer Sci. and Engineering, <sup>4</sup>Stanford Univ. Sch. of Med.)  
**Human-viral hybrid ecDNAの蓄積がもたらすがんのライフサイクルへの寄与と新規標的治療の可能性**  
 中川 拓也<sup>1,2</sup>, Jens Luebeck<sup>3</sup>, Joshua Lange<sup>4</sup>, Kaiyuan Zhu<sup>3</sup>, Chad Phillips<sup>2</sup>, Paul Mischel<sup>4</sup>, Vineet Bafna<sup>3</sup>, Joseph Califano<sup>2</sup> (<sup>1</sup>千葉大学 医 耳鼻, <sup>2</sup>UC San Diego Moores Cancer Ctr., <sup>3</sup>UC San Diego, Dept. Computer Sci. and En, <sup>4</sup>Stanford Univ. Sch. of Med.)
- E-1081 Preclinical evidence for an anti-ATL immunotherapy using short-term cultured autologous PBMC as a vaccine**  
 Mari Kannagi<sup>1,2</sup>, Atsuhiko Hasegawa<sup>2,3</sup>, Megumi Murata<sup>4</sup>, Shinsuke Nakajima<sup>1</sup>, Atsushi Satake<sup>1</sup>, Tomoki Ito<sup>5</sup>, Atae Utsunomiya<sup>6</sup>, Junichi Fujisawa<sup>1</sup>, Kazu Okuma<sup>1</sup>, Hirofumi Akari<sup>4</sup> (<sup>1</sup>Dept. Microbiology, Kansai Med. Univ., <sup>2</sup>Dept. Immunotherapeutics, Tokyo Med. & Dent. Univ., <sup>3</sup>Clin. Res. Inst., Kyushu Cancer Ctr., <sup>4</sup>Ctr. Evolutionary Origins Hum. Behavior, Kyoto Univ., <sup>5</sup>1st Dept. Internal Med., Kansai Med. Univ., <sup>6</sup>Dept. Hematology, Imamura General Hosp.)  
**短期培養した自家PBMCを抗原とする新規抗ATL免疫療法の前臨床検討**  
 神奈木 真理<sup>1,2</sup>, 長谷川 温彦<sup>2,3</sup>, 村田 めぐみ<sup>4</sup>, 中嶋 伸介<sup>1</sup>, 佐竹 敦志<sup>5</sup>, 伊藤 量基<sup>6</sup>, 宇都宮 興<sup>6</sup>, 藤澤 順一<sup>1</sup>, 大隈 和<sup>1</sup>, 明里 宏文<sup>4</sup> (<sup>1</sup>関西医大・医・微生物学, <sup>2</sup>東京医歯大・免疫治療学, <sup>3</sup>九州がんセ・臨床研究セ, <sup>4</sup>京都大・ヒト行動進化研究セ, <sup>5</sup>関西医大・医・内科学 1, <sup>6</sup>今村総合病院・血液内科)
- E-1082 miR-3145-3p is an HBV suppressor induced by endoplasmic reticulum stress during virus replication**  
 Hisashi Iizasa, Daichi Onomura, Liu Yuxin, Afifah Fatimah, Shunpei Okada, Hironori Yoshiyama (Dept Micro, Fact Med, Shimane Univ)  
**miR-3145-3pはウイルス増殖時の小胞体ストレスにより誘導されるHBV抑制因子である**  
 飯笹 久, 小野村 大地, 劉 雨新, ファティマ アフィファ, 岡田 俊平, 吉山 裕規 (島根大学 医学部 微生物学)
- E-1083 Oncoprotein E6 derived from specific HPV leads to mitotic defect ECAC in cervical preneoplastic lesion.**  
 Nanami Seshimo<sup>1,2</sup>, Ryusuke Nozawa<sup>1</sup>, Reiko Furuta<sup>3</sup>, Tomoyuki Kitagawa<sup>4</sup>, Toru Hirota<sup>1</sup> (JFCR, Cancer Inst., Div. Exp. Pathol., <sup>2</sup>Dept. Anat. Pathol. Sci., Grad. Sch., Tokyo Med. & Dent., <sup>3</sup>Dept. Med. Lab. Sci., Kitasato Univ., <sup>4</sup>JFCR, Cancer Inst.)  
**HPV関連子宮頸部上皮内異形成における染色体動態異常の誘導機構**  
 瀬下 奈々美<sup>1,2</sup>, 野澤 竜介<sup>1</sup>, 古田 玲子<sup>3</sup>, 北川 知行<sup>4</sup>, 広田 亨<sup>1</sup> (<sup>1</sup>がん研・研・実験病理, <sup>2</sup>東京医歯大・院・形態情報解析学, <sup>3</sup>北里大・院・応用腫瘍病理学, <sup>4</sup>がん研・研)
- E-1084 Single cell and microdissection of HPV18 cervical adenocarcinoma generated from iPS cell-derived reserve (iRC) cells**  
 Saki Kamata<sup>1</sup>, Ayumi Taguchi<sup>2</sup>, Yuji Ikeda<sup>1</sup>, Naoko Tomita<sup>1</sup>, Rie Mayuyama<sup>1</sup>, Hitoshi Iuchi<sup>3</sup>, Hiroko Matsunaga<sup>4</sup>, Toshitsugu Okayama<sup>5</sup>, Kazuma Kiyotani<sup>6</sup>, Kazuho Ikee<sup>5</sup>, Tohru Kiyono<sup>7</sup>, Haruko Takeyama<sup>4</sup>, Michiaki Hamada<sup>3</sup>, Kei Kawana<sup>1</sup> (<sup>1</sup>Nihon Univ. Med. Gynecol., <sup>2</sup>Tokyo Univ. Med. Gynecol., <sup>3</sup>Waseda Univ. Fac. Sci. & Eng., <sup>4</sup>Waseda Univ. Res. Org. Nano & Life Innov., <sup>5</sup>Natl. Inst. Genet., <sup>6</sup>JFCR, <sup>7</sup>Natl. cancer ctr.)  
**iPS細胞由来リザーブ細胞 (iRC) から作製したHPV18型子宮頸部腺癌モデルのシングルセルとマイクロダイゼクション解析**  
 鎌田 早紀<sup>1</sup>, 田口 歩<sup>2</sup>, 池田 悠至<sup>1</sup>, 富田 直子<sup>1</sup>, 丸山 理恵<sup>1</sup>, 井内 仁志<sup>3</sup>, 松永 浩子<sup>4</sup>, 岡山 利次<sup>5</sup>, 清谷 一馬<sup>6</sup>, 池尾 一穂<sup>5</sup>, 清野 透<sup>7</sup>, 竹山 春子<sup>4</sup>, 浜田 道昭<sup>3</sup>, 川名 敬<sup>1</sup> (<sup>1</sup>日本大学 医学部 産婦人科, <sup>2</sup>東京大学 医学部 産婦人科, <sup>3</sup>早稲田大学 理工学術院, <sup>4</sup>早稲田大学 ナノ・ライフ創研究機構, <sup>5</sup>国立遺伝学研究所, <sup>6</sup>がん研究会, <sup>7</sup>国立がん研究センター)

E6

**Control of mitosis and chromosomal instability**  
 M期の制御と染色体不安定性

Chairperson: Ken-ichi Yoshioka (Lab. Genome Stability Maint., Natl. Can. Cen. Res. Inst.)  
 座長: 吉岡 研一 (国立がんセ・研究所・ゲノム安定性制御)

- E-1085 Driving force to concentrate Aurora B activity at inner centromeres: A key cellular function ensuring mitotic fidelity**  
 Ryusuke Nozawa, Saho Matsui, Toru Hirota (Div. Exp. Path. Cancer Inst., JFCR)  
**染色体分配を保障する Aurora B 集合体の形成機構**  
 野澤 竜介, 松井 紗帆, 広田 亨 (公財・がん研・がん研・実験病理部)
- E-1086 How HP1-Aurora B complex concentrates to centromeres and ensures mitotic fidelity**  
 Saho Matsui<sup>1,2</sup>, Ryusuke Nozawa<sup>1</sup>, Toru Hirota<sup>1,2</sup> (<sup>1</sup>Div. Exp. Pathol. Cancer Inst. JFCR, <sup>2</sup>Dept. JFCR, Tokyo Med. & Dent. Univ.)  
**セントロメアが担う Aurora B 複合体の集合機構とその破綻**  
 松井 紗帆<sup>1,2</sup>, 野澤 竜介<sup>1</sup>, 広田 亨<sup>1,2</sup> (<sup>1</sup>がん研・研・実験病理, <sup>2</sup>東京医歯大・JFCR 腫瘍制御学)
- E-1087 How HP1 secures binding to the Aurora B complex: a key interaction preventing chromosomal segregation errors**  
 Kosuke Sako<sup>1</sup>, Ayako Furukawa<sup>2,3</sup>, Yoshifumi Nishimura<sup>3</sup>, Toru Hirota<sup>1</sup> (<sup>1</sup>Cancer Inst., JFCR, <sup>2</sup>Grad. Sch. of Agric., Kyoto Univ., <sup>3</sup>Grad. Sch. Med. Life Sci., Yokohama City Univ.)  
**染色体分離エラーを防ぐ Aurora B 複合体と HP1 との重要な相互作用**  
 迫 洸佑<sup>1</sup>, 古川 垂矢子<sup>2,3</sup>, 西村 善文<sup>3</sup>, 広田 亨<sup>1</sup> (<sup>1</sup>公財・がん研究会・がん研究所, <sup>2</sup>京大・院・農学研究科, <sup>3</sup>横浜市大・生命医)
- E-1088 Understanding mechanisms underlying extrachromosomal circular DNA using budding yeast**  
 Mariko Sasaki (National Institute of Genetics, Center for Frontier Research)  
**出芽酵母を用いた染色体外環状 DNA 生成機構の解明**  
 佐々木 真理子 (国立遺伝学研究所・新分野創造センター)
- E-1089 Mechanism of chromosome missegregation caused by prolonged metaphase**  
 Norihisa Shindo, Jun Yasuda (Div. Mol. & Cell. Oncol., Miyagi Cancer Ctr. Res. Inst.)  
**分裂期中期延長によって生じる染色体分離異常について**  
 進藤 軌久, 安田 純 (宮城県がんセ・研・発がん制御)
- E-1090 How Polo-like kinase 1 regulates kinetochore-microtubule attachments in cancers**  
 Nana Kamakura<sup>1,2</sup>, Minji Jo<sup>1</sup>, Toru Hirota<sup>1,2</sup> (JFCR, Cancer Inst., Div. Exp. Pathol., <sup>2</sup>Dept. JFCR, Grad. Sch., Tokyo Med. & Dent.)  
**Plk1 によるがん細胞特異的な微小管-動原体結合の制御**  
 鎌倉 奈々<sup>1,2</sup>, 趙 民知<sup>1</sup>, 広田 亨<sup>1,2</sup> (<sup>1</sup>がん研・研・実験病理, <sup>2</sup>東京医歯大・院・JFCR 腫瘍制御学)



**J6 DNA replication, repair and genomic instability**  
DNA複製・修復とゲノム不安定性

Chairperson: Natsuko Chiba (Dept. Cancer Biol., IDAC, Tohoku Univ.)  
座長：千葉 奈津子 (東北大・加齢研・腫瘍生物学)

- J-1073 An ATR-PrimPol pathway confers tolerance to oncogenic KRAS-induced replication stress supporting clonal expansion.**  
Bunsyo Shiotani (Lab. Genome Stress Signaling, Natl. Cancer Ctr. Res. Inst.)  
ATR-PrimPol 依存的 DNA 複製ストレス耐性による初期発がん機構の制御  
塩谷 文章 (国立がん研セ・研・ゲノムストレス応答学)
- J-1074 Targeting the POLD4-PRIMPOL pathway in non-small cell lung cancer**  
Atsuko Niimi, Siripan Limsirichaikul, Patinya Sawangsri, Dat Q. Tran, Yasuyoshi Mizutani, Toshiyuki Takeuchi, Motoshi Suzuki (Dept. Mol. Oncol., Fujita Health Univ., Sch. Med.)  
POLD4-PRIMPOL 経路は非小細胞肺癌において標的となりうる  
新美 敦子, Siripan Limsirichaikul, Patinya Sawangsri, Dat Q. Tran, 水谷 泰嘉, 竹内 俊幸, 鈴木 元 (藤田医科大・医・分子腫瘍学)
- J-1075 Chromosomal instability induced by supercoiled DNAs arise during replication**  
Kusano Yoshiharu, Ryusuke Nozawa, Toru Hirota (Cancer Institute, JFCR)  
DNA 複製に起因するトポロジカルストレスが引き起こす染色体不安定性  
草野 善晴, 野澤 竜介, 広田 亨 (がん研究会 がん研究所実験病理部)
- J-1076 Mechanism underlying the repair of Topoisomerase I-induced DNA damages**  
Tsuda Masataka<sup>1</sup>, Hiroshi Ide<sup>2</sup> (National Institute of Health Sciences, Hiroshima University)  
DNA にトラップされたトポイソメラーゼ 1 の除去機構  
津田 雅貴<sup>1</sup>, 井出 博<sup>2</sup> (国立医薬品食品衛生研究所・変異遺伝部, 広島大学統合生命科学研究所)
- J-1077 Involvement of splicing factor SART1 in BRCA1-dependent homologous recombination repair of DNA double-strand breaks**  
Motohiro Yamauchi<sup>1</sup>, Kie Ozaki<sup>1</sup>, Yuki Uchihara<sup>2</sup>, Takaaki Yasuhara<sup>3</sup>, Atsushi Shibata<sup>4</sup> (Hospital Camp. Lab. RI Ctr. Kyushu Univ., Div. Mol. Oncol. Pharm., Fac. Pharm., Keio Univ., Isotope Sci. Ctr., Univ. Tokyo)  
BRCA1 依存的な DNA 二本鎖切断の相同組換え修復におけるスプライシング因子 SART1 の関与  
山内 基弘<sup>1</sup>, 尾崎 貴恵<sup>1</sup>, 内原 脩寛<sup>2</sup>, 安原 崇哲<sup>3</sup>, 柴田 淳史<sup>2</sup> (九大アイン 病院地区, 慶應大 薬 分子腫瘍薬学, 東大 アイン)
- J-1078 Suppression of USP1 expression inhibits cell proliferation in malignant mesotheliomas harboring BAP1 mutation**  
Koya Suzuki<sup>1,2,3</sup>, Kirara Kobayashi<sup>1</sup>, Tommohiro Akashi<sup>4</sup>, Norio Kaneda<sup>5</sup>, Tohru Maeda<sup>6</sup>, Takashi Miida<sup>7</sup>, Hiroshi Murakami<sup>8</sup>, Kenji Kadomatsu<sup>9</sup>, Yoshitaka Sekido<sup>9</sup>, Yuko Murakamitonami<sup>1,2</sup> (Mol. Cancer Genet. Lab., Tokyo Univ. Tech. Grad Sch. Bionics, Dept. Clin. Lab. Med., Juntendo Univ. Grad. Sch. Med., Adv. Comp. Res. Org., Teikyo Univ., Dept. Integrative Cellular Inform., Nagoya Univ. Grad. Sch. Med., Fac. Pharm., Meijo Univ., Col. Pharm., Kinjo Gakuin Univ., Dept. Biol. Sci., Fac. Sci. Eng., Chuo Univ., Dept. Biochem., Nagoya Univ. Grad. Sch. Med., Div. Cancer. Biol., Aichi Cancer Ctr. Res. Inst.)  
BAP1 変異悪性中皮腫細胞において、USP1 の発現抑制により細胞増殖が抑制される  
鈴木 浩也<sup>1,2,3</sup>, 小林 輝星<sup>1</sup>, 紅 朋浩<sup>4</sup>, 金田 典雄<sup>5</sup>, 前田 徹<sup>6</sup>, 三井田 孝<sup>2</sup>, 村上 浩士<sup>7</sup>, 門松 健治<sup>8</sup>, 関戸 好孝<sup>9</sup>, 村上 (渡並) 優子<sup>1,2</sup> (東工大 大学院・バイオ・腫瘍分子遺伝, 順大院医・臨床, 帝京大・先端研, 4名大院医・システム生物, 5名城大・薬, 6金城学院大・薬, 7中大院理工・生命, 8名大院医・生化, 9愛知がんセ・分腫)

**S6 Frontiers in proteomics - from elucidation of molecular dynamics to clinical application**  
最先端プロテオーム解析技術が導く新たながん研究

Chairpersons: Yoshimi Haga (Japanese Foundation for Cancer Res.)  
Shungo Adachi (Natl. Cancer Ctr. Res. Institute)

- 座長：芳賀 淑美 ((公財) がん研)  
足達 俊吾 (国立がん研セ)
- Understanding cancer and developing treatments requires analyses not only genetic mutations but also the quantity and activity of proteins that regulate functions. With the advances of technologies such as next-generation DNA sequencing and RNA sequencing, genomic analysis in cancer has contributed to the identification of driver mutations and the development of targeted therapies. Although proteomics has lagged somewhat behind genomics, recent advances in proteomics technology over the past years have enabled direct, in depth, and quantitative analysis of the abundances of various cancer-related proteins, as well as their cancer specific amino acid alterations and post-translational modifications in clinical samples. Deep proteomic profiling provides clinically useful information in various aspects, such as understanding the mechanisms of cancer physiology, and also discovering targets for diagnosis and anti-cancer agents. In this symposium, the cutting-edge proteomics technologies will be presented to provide an understanding of the current status of the latest clinical proteomics. Various topics will be covered, including the challenge of single-cell proteomics and integration with genomics. We hope to increase understanding of the potential and utility of different types of state-of-the-art proteomics platforms, and to promote collaborative research and clinical applications in the future.
- S6-1 Potential of mass spectrometry in antigen discovery for cancer immunotherapy**  
Yuriko Minegishi<sup>1</sup>, Yoshimi Haga<sup>1</sup>, Yuji Hakozaiki<sup>1</sup>, Kazuma Kiyotani<sup>2,3</sup>, Satoshi Nagayama<sup>4,5</sup>, Koji Ueda<sup>1</sup> (Can Proteomics, CPM Ctr, JFCR, Lab Immunogenomics, CiDIG, NIBIOHN, Can Immunogenomics, CPM Ctr, JFCR, Dept Gastroenterol Surgery, Can Inst Hosp, JFCR, Uji-Tokusyukai Hosp, Med Ctr)  
がん免疫療法のための抗原探索における質量分析の可能性  
峯岸 ゆり子<sup>1</sup>, 芳賀 淑美<sup>1</sup>, 箱崎 勇治<sup>1</sup>, 清谷 一馬<sup>2,3</sup>, 長山 聡<sup>4,5</sup>, 植田 幸嗣<sup>1</sup> (1がん研・CPMセ・プロテオミクス解析 Gr, 2医薬基盤研・難病・免疫ゲノム研究 PJ, 3がん研・CPMセ・免疫ゲノム医療開発 PJ, 4がん研・有明病院・消化器外科, 5宇治徳洲会病院・消化器外科)
- S6-2 In-depth proteomics to decipher the complexity of the blood cancer proteome**  
Ayumu Taguchi<sup>1,2</sup> (Div. Mol. Diag., Aichi Cancer Center, Adv. Cancer Diag, Nagoya Univ. Grad. Sch. Med.)  
複雑ながん血液プロテオームを読み解く高深度プロテオミクス  
田口 歩<sup>1,2</sup> (愛知がん・分子診断 TR, 2名古屋大・医・先端がん診断)
- S6-3 Disease analysis using antibody-based ultra-sensitive proteome analysis technology**  
Yoshiya Oda (The University of Tokyo, Graduate School of Medicine)  
抗体ベースの超高感度プロテオーム解析技術を用いた疾患解析  
小田 吉哉 (東京大学大学院医学系研究科)
- S6-4 Pharmaco-phosphoproteomics approach to discover therapeutic targets for colorectal cancer liver metastases.**  
Jun Adachi<sup>1</sup>, Daigo Gunji<sup>1,2</sup>, Yuichi Abe<sup>3</sup>, Satoshi Muraoka<sup>1</sup>, Satoshi Nagayama<sup>4</sup>, Takeshi Tomonaga<sup>1</sup>, Kazutaka Obama<sup>2</sup> (Lab. Proteomics for Drug Discovery, NIBIOHN, Department of Surgery, Graduate School of Medicine, Kyoto University, Division of Molecular Diagnosis, Aichi Cancer Center Research Institute, Department of Surgery, Uji Tokushukai Hospital)  
リン酸化プロテオームデータと薬剤感受性データの統合解析による薬剤耐性大腸がん肝転移薬の新規治療標的探索  
足立 淳<sup>1</sup>, 軍司 大悟<sup>1,2</sup>, 阿部 雄一<sup>3</sup>, 村岡 賢<sup>1</sup>, 長山 聡<sup>4</sup>, 朝長 毅<sup>1</sup>, 小濱 和貴<sup>2</sup> (1医薬健康研・創薬標的プロテオミクス PJ, 2京都大・医・消化管外科, 3愛知県がんセ・研・分子診断 TR, 4宇治徳洲会病院・消化器外科)
- S6-5 Development of ultra-deep proteome analysis system and its potential**  
Yusuke Kawashima (Kazusa DNA Res. Inst.)  
超深度プロテオーム解析システムの開発とその可能性  
川島 祐介 (かずさ DNA 研)

S7

## New Research Initiatives to Make Cancer Epidemiological Research a Science

がん疫学研究をサイエンスにするためのあらたな研究の取り組み

Chairpersons: Keitaro Matsuo (Aichi cancer center)

Manami Inoue (Inst. for Cancer Control, Natl. Cancer Ctr.)

座長：松尾 恵太郎 (愛知県がんセンター)

井上 真奈美 (国立がん研セ・がん対策・研)

近年、疫学研究領域では、様々な情報利用が可能となり、その研究方法も多角化してきている。がん疫学においてメカニズムの解明に迫る研究を展開していくには、従来の研究展開に留まらず、新たな視点による解析手法の積極的導入を進めていくことが重要である。本シンポジウムでは、がん疫学研究の新展開に貢献できる可能性のある新たな研究方法やその取り組みについて、様々な視点からお話しいただく。

## S6-6 Large scale proteomics of malignant ascites in ovarian cancer reveals distinct subgroups and prognostic biomarkers

Shohei Iyoshi<sup>1,2,3</sup>, Tobias Dreyer<sup>4</sup>, Masato Yoshihara<sup>1</sup>, Yoshihiko Yamakita<sup>5</sup>, Viktor Magdolen<sup>3</sup>, Hiroaki Kajiyama<sup>1</sup>, Oliver Schilling<sup>2</sup> (<sup>1</sup>Dept. Obstet. Gynecol. Nagoya Univ. Sch. Med., <sup>2</sup>Inst. Surg. Path. Univ. Freiburg, <sup>3</sup>Inst. Adv. Res. Nagoya Univ., <sup>4</sup>Dept. Obstet. Gynecol. Tech. Univ. Munich, <sup>5</sup>Bell Res. Ctr., Dept. Obstet. Gynecol. Univ. Nagoya Sch. Med.)

高異型度漿液性卵巣癌患者由来悪性腹水の大規模コホートプロテオミクス解析による分子型サブグループの同定と予後マーカーの探索  
伊吉 祥平<sup>1,2,3</sup>、Tobias Dreyer<sup>4</sup>、吉原 雅人<sup>1</sup>、山北 由彦<sup>5</sup>、Viktor Magdolen<sup>4</sup>、梶山 広明<sup>1</sup>、Oliver Schilling<sup>2</sup> (<sup>1</sup>名古屋大学大学院医学系研究科産婦人科、<sup>2</sup>フライブルク大学附属病院外科系病理部、<sup>3</sup>名古屋大学高等研究院、<sup>4</sup>ミュンヘン工科大学附属病院産婦人科、<sup>5</sup>名古屋大学・院医 ベルリサーチセンター)

## S7-1 Equalization of Cancer Disease Burden in Japan: An Approach from the Global Burden of Disease Study (GBD)

Shuhei Nomura<sup>1,2,3</sup> (<sup>1</sup>HPM, Keio University, <sup>2</sup>GHP, The University of Tokyo, <sup>3</sup>The Tokyo Foundation for Policy Research)

がんの疾病負担の均てん化 世界の疾病負担研究(GBD)のアプローチ  
野村 周平<sup>1,2,3</sup> (<sup>1</sup>慶應義塾大学 医療政策・管理学教室、<sup>2</sup>東京大学大学院 国際保健政策学教室、<sup>3</sup>東京財団政策研究所)

## S7-2 Geographical inequality in cancer in Japan: spatial epidemiology and mediation analysis using public data.

Hidemi Ito (Div. of Cancer Information & Control, Aichi Cancer Ctr. Res. Inst.)

日本におけるがんの地理的格差の評価：公的データを使った空間疫学や媒介分析の応用

伊藤 秀美 (愛知県がんセンター・がん情報・対策研究分野)

## S7-3 Evaluation of genetic and environmental factors for cancer risk

Yoshiaki Usui<sup>1</sup>, Keitaro Matsuo<sup>2</sup>, Yukihide Momozawa<sup>1</sup> (<sup>1</sup>Lab. for Genotyping Development, IMS, RIKEN, <sup>2</sup>Div. of Cancer Epidemiology & Prevention, Aichi Cancer Ctr.)

がんリスクに関する遺伝・環境要因の評価

碓井 喜明<sup>1</sup>、松尾 恵太郎<sup>2</sup>、桃沢 幸秀<sup>1</sup> (<sup>1</sup>理化学研究所基盤技術開発研究チーム、<sup>2</sup>愛知県がんセンターがん予防研究分野)

## S7-4 Cancer genome medicine and epidemiological studies: the Potential

Keitaro Matsuo (Div. Cancer Epi. Prev., Aichi Cancer Ctr.)

がんゲノム医療の情報のがん疫学研究への応用可能性

松尾 恵太郎 (愛知県がんセンター・研・がん予防)

## S7-5 Identifying mechanisms in Epidemiological Research: Causal Mediation Analysis

Kosuke Inoue<sup>1,2</sup> (<sup>1</sup>Hakubi Center, Kyoto University, <sup>2</sup>Department of Social Epidemiology, Kyoto University)

疫学的アプローチからメカニズムを紐解く：因果媒介分析の挑戦

井上 浩輔<sup>1,2</sup> (<sup>1</sup>京都大学・白眉センター、<sup>2</sup>京都大学大学院医学研究科 社会疫学)

## S7-6 Initiatives of existing cohort study with considerations of longevity.

Norie Sawada (Dept. Cohort.Res., Natl. Cancer Center Inst. for Cancer Control)

長寿を考慮したコホート研究の取り組み

澤田 典絵 (国がん・がん対策研・コホート研究部)

Room 16 Sep. 21 (Thu.) 13:40-16:10

E

S8

## Evolving Technologies of Genetic Screening

進化する遺伝子スクリーニング技術

Chairpersons: Masahiro Sonoshita (Inst. for Genetic Med., Hokkaido Univ.)  
Haruna Takeda (Natl. Cancer Center Research Institute)

座長：園下 将大 (北海道大・遺伝研)  
武田 はるな (国立がん研セ・研)

Recent studies have made remarkable strides in elucidating the pathogenesis of cancer. Specifically, determining the key signaling pathways involved in carcinogenesis has been pivotal in understanding the mechanisms underlying cancer development and progression. Moreover, the identification of novel therapeutic targets has significantly promoted the development of anti-cancer drugs. In these studies, various screening technologies have contributed to delineating previously unappreciated genes governing cancers. For example, genome-wide genetic approaches in organoids and whole animals have unveiled essential genes implicated in cancer development, progression, and therapy resistance. This symposium invites six speakers who will present their cutting-edge achievements in various domains, including cancer initiation and progression. Sharing and discussing the latest methodologies and findings should open up new avenues for accelerating cancer research.

**S8-1 Identification of inflammation-associated colon cancer driver genes using Sleeping Beauty mutagenesis**

Haruna Takeda (Natl. Cancer Ctr. Res. Inst.)

Sleeping Beauty を用いた炎症関連がん遺伝子の網羅的同定

武田 はるな (国立がん研セ・研究所)

**S8-2 Identifying novel targets for leukemia therapy using functional genomic tools**

Takahiro Maeda (Division of Precision Medicine Kyushu University School of Medicine)

機能的ジェノミックスを用いた新規白血病治療標的的同定

前田 高宏 (九州大学医学研究院プレシジョン医療学)

**S8-3 Screening for regulators of extracellular vesicle secretion in prostate cancer**

Fumihiko Urabe<sup>1,2</sup>, Takahiro Kimura<sup>1</sup>, Yusuke Yamamoto<sup>3</sup>, Takahiro Ochiya<sup>3</sup> (<sup>1</sup>Dept. Urology, Jikei Univ., Sch. Med., <sup>2</sup>Lab. Integr. Oncol., Nat. Cancer Ctr. Res. Inst., <sup>3</sup>Dept. Mol. Cell. Med., Tokyo Med. Univ.)

遺伝子スクリーニングを用いた前立腺癌におけるエクソソーム治療の開発

占部 文彦<sup>1,2</sup>、木村 高弘<sup>1</sup>、山本 雄介<sup>2</sup>、落谷 孝広<sup>3</sup> (慈恵医大・医・泌尿器科、<sup>2</sup>国立がん研セ・研・病態情報、<sup>3</sup>東京医大・分子細胞治療研)

**S8-4 Screening of therapeutic biomarkers with intrinsic and immunocompetent HCC mouse model mimicking tumor heterogeneity**

Takahiro Kodama, Shuhei Yamamoto, Takayuki Matsumae, Hayato Hikita, Tetsuo Takehara (Dept of Gastroenterology and Hepatology, Osaka Univ Grad Sch Med)

免疫能を有し腫瘍不均一性を呈する内在性肝細胞癌マウスモデルを用いた治療バイオマーカー探索

小玉 尚宏、山本 修平、松前 高幸、疋田 隼人、竹原 徹郎 (大阪大・消化器内科)

**S8-5 Canonical BAF complex is essential for the RUNX1-driven oncogenic program in human T-cell acute lymphoblastic leukemia**

Kazunari Aoki<sup>1</sup>, Mizuki Hyuga<sup>1,2</sup>, Yusuke Tarumoto<sup>1</sup>, Gohei Nishibuchi<sup>1</sup>, Yotaro Ochi<sup>3,4</sup>, Seiichi Sugino<sup>1</sup>, Takashi Mikami<sup>5</sup>, Hirokazu Kobushi<sup>3</sup>, Itaru Kato<sup>5</sup>, Koshi Akahane<sup>6</sup>, Takeshi Inukai<sup>6</sup>, Akifumi Takaori<sup>2</sup>, Junko Takita<sup>5</sup>, Seishi Ogawa<sup>3,4,7</sup>, Kosuke Yusa<sup>1</sup> (<sup>1</sup>Stem cell genetics, LiMe, Kyoto University, <sup>2</sup>Dept. Hematology and Oncology, Kyoto University, <sup>3</sup>Dept. Pathology and Tumor Biology, Kyoto University, <sup>4</sup>WPI-ASHBi, Kyoto University, <sup>5</sup>Dept. Pediatrics, Kyoto University, <sup>6</sup>Dept. Pediatrics, University of Yamanashi, <sup>7</sup>Dept. Medicine, Centre for Haematology and Regenerative Medicine, Karolinska Institute)

古典的 BAF 複合体はヒト T 細胞性急性リンパ芽球性白血病における RUNX1 駆動発癌プログラムに必須である

青木 一成、日向 瑞貴<sup>1,2</sup>、樽本 雄介<sup>1</sup>、西淵 剛平<sup>1</sup>、越智 陽太郎<sup>3,4</sup>、杉野 成一、三上 貴司<sup>5</sup>、幸伏 寛和<sup>5</sup>、加藤 格<sup>5</sup>、赤羽 弘資<sup>6</sup>、犬飼 岳史<sup>6</sup>、高折 晃史<sup>2</sup>、滝田 順子<sup>5</sup>、小川 誠司<sup>3,4,7</sup>、遊佐 宏介<sup>1</sup> (京都大学医生物学研究所幹細胞遺伝学、<sup>2</sup>京都大学医学研究科血液・腫瘍内科学、<sup>3</sup>京都大学医学研究科腫瘍生物学、<sup>4</sup>京都大学高等研究院ヒト生物学高等研究拠点、<sup>5</sup>京都大学医学研究科発達小児科学、<sup>6</sup>山梨大学医学部小児科学、<sup>7</sup>カロリンスカ研究所血液再生医学)

**S8-6 Drosophila genetic screen identifies non-cell autonomous tumor progression by unfolded protein response**

Tatsushi Igaki (Lab. of Genetics, Grad. Sch. of Biostudies, Kyoto Univ.)

ショウジョウバエ遺伝学的スクリーニングによるがん進展メカニズムの解析

井垣 達吏 (京大・生命・システム機能学)

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S9

**Analysis of cancer pathology due to the circular modulation of a neuronal network for comprehensive palliative care medicine**

包括的緩和医療のための神経ネットワークによるがん病態に対する円環的調節の解析

 Chairpersons: Minoru Narita (Hoshi Univ. Natl. Cancer Ctr. Res. Inst.)  
 Fumimasa Amaya (Dept. Pain Management & Palliative Care Med.)

座長：成田 年 (星薬科大/国立がん研セ)

天谷 文昌 (京都府医大・院医・疼痛・緩和医療学教室)

The cancer immune response is not determined solely by the number and nature of cancer cells themselves, but rather is tightly regulated by the tumor microenvironment based on the association between cancer cells and heterologous cells, as well as by circulating endotoxins, cytokines, hormones, exosomes, immune cell responses, and even brain-peripheral nerve linkages. The "negative cancer-immune chain" is thought to involve a circular network of brain-based afferent and efferent nerves, which is significant for elucidating their structure and function. A growing body of clinical evidence suggests that residual pain significantly worsens the prognosis of various diseases including cancer. Thus, excessive pain signals can alter immune cell responses through systemic neural networks including sensory neurons, and weaken the organism. The importance of "mental care" in the treatment of pain is evident because patients with cancer pain often exhibit psychiatric issues. Therefore, we propose that an integrated understanding of the "comprehensive cancer pathophysiology" that includes bio-sensory and systemic neural networks, including dispersive local interactions between heterologous cells in the cancer microenvironment, is required. In this symposium, we focus on the effects of changes in peripheral-brain neural networks on cancer pathophysiology.

**S9-1 Intensive pain management and cancer prognosis**

Fumimasa Amaya (Kyoto Prefectural University of Medicine)

集中的な疼痛緩和とがん治療への影響

天谷 文昌 (京都府立医科大学 疼痛・緩和医療学教室)

**S9-2 Impacts of peripheral neuropathy modulated by neuron/Schwann cell interaction on cancer pathology**

Satoshi Imai (Dept. Med. Neuropharmacol., Wakayama Med. Univ., Sch. Pharm. Sci.)

知覚神経/シュワン細胞の相互作用がもたらす末梢神経障害によるがん病態に及ぼす影響

今井 哲司 (和歌山県立医科大学・薬学部・医療開発薬学)

**S9-3 Cancer neuroscience: Analysis of interaction between nerves and cancer cells in the tumor microenvironment**

Hideaki Takahashi (Dept. Otorhinolaryngology, Head Neck Surg., Yokohama City Univ.)

 腫瘍神経学：がん微小環境における神経とがん細胞の相互作用の解析  
 高橋 秀聡 (横浜市立大学・耳鼻咽喉科・頭頸部外科)

**S9-4 Significance of the scientific understanding of pain signaling and neural networks that control cancer pathophysiology**

 Minoru Narita<sup>1,2</sup> (<sup>1</sup>Dept. Pharmacol., Hoshi Univ., Tokyo, Japan, <sup>2</sup>Div. Pathophysiol., Natl. Cancer Ctr. Res. Inst., Tokyo, Japan)

がん病態を支配する負の末梢-脳-末梢円環的神経ネットワークの科学的理解と“がん病態生理改善法”の意義

 成田 年<sup>1,2</sup> (<sup>1</sup>星薬大・薬理、<sup>2</sup>国立がん研究セ・研・がん患者病態生理)