

THE 18th ANNUAL MEETING

JSGT2012

JAPAN SOCIETY OF GENE THERAPY

Program & Abstracts

Date

June 28-30, 2012

Venue

Hotel Kumamoto Terrsa

28-51 Suizenjikoen, Chuo-ku, Kumamoto city, 862-0956

Kumamoto

JSGT Home-page URL: *http://jsgt.jp*

The 18th Annual Meeting of JSGT 2012
Venue: Hotel Kumamoto Terra, Kumamoto

Time Table

(E: English presentation, J: Japanese presentation)

Day I Thursday, June 28

10:00~10:10	Opening Remarks: President Fumio Endo	
10:10~11:40	Best Presentation (BP1~BP6) (E)	<i>Chairpersons: Yoshiro Niitsu & Takashi Shimada</i>
11:40~11:55	3rd Takara Bio Award Lecture Yasuhiro Ikeda (Graduate School of Medical Sciences, Kyushu University) “Pigment epithelium-derived factor gene therapy targeting retinal ganglion cell injuries: neuroprotection against loss of function in two animal models”	<i>Chairperson: Yasufumi Kaneda</i>
12:00~19:30	Poster Viewing (PO57~PO88)	
12:00~12:50	Corporate Seminar I (Genzyme Japan K.K.) Toya Ohashi (The Jikei University School of Medicine) “Current Therapies for Lysosomal Storage Diseases and Their Problems-For the Development of Cell and Gene Therapies-” Corporate Seminar II Takumi Era (Kumamoto University School of Medicine) “Study for iPS cells derived from intractable diseases”	<i>Chairperson: Takashi Shimada</i> <i>Chairperson: Hitoshi Nakazato</i>
12:50~13:30	General Assembly	
13:30~13:50	Presidential Lecture Fumio Endo (Kumamoto University School of Medicine) “A new era for treatment of genetic diseases”	<i>Chairperson: Shigetaka Asano</i>
13:50~14:30	Board Chairman’s Lecture Yasufumi Kaneda (Graduate School of Medicine, Osaka University) “Future direction of gene therapy”	<i>Chairperson: Shigetaka Asano</i>
14:30~14:50	Coffee Break	
14:50~15:30	Special Lecture I (E) Nathalie Cartier (University Paris-Descartes, SFTCG President) “Gene therapy strategies for genetic leukodystrophies”	<i>Chairperson: Yoshikatsu Eto</i>
15:30~16:10	Special Lecture II (E) Xandra O. Breakefield (Massachusetts General Hospital Neurogenetics Unit, ASGCT President) “Gene therapy for schwannomas using aav-caspase and extracellular vesicle-pro-drug activation”	<i>Chairperson: Yasufumi Kaneda</i>
16:10~16:50	Special Lecture III (E) Markus Grompe (Oregon Health & Science University, USA) “Gene therapy for genetic liver diseases”	<i>Chairperson: Kohnosuke Mitani</i>
16:50~18:30	Symposium I (E) Progress in Gene Therapy “ Gene Therapy Clinical Trials for Non-Tumor Disorders ” <i>Chairpersons: Ryuichi Morishita & Masafumi Onodera</i> Masafumi Onodera (National Center for Child Health and Development) “Gene therapy for primary immunodeficiencies” Yasuhiro Ikeda (Graduate School of Medical Sciences, Kyushu University) “Neuroprotective gene therapy to treat patients with retinitis pigmentosa” Ryuichi Morishita (Graduate School of Medicine, Osaka University) “Current Status and Future Prospect of Cardiovascular Gene Therapy” Shin’ichi Takeda (National Center of Neurology and Psychiatry) “Gene Therapy for Neuromuscular Disorders” Hideki Mochizuki (Graduate School of Medicine, Osaka University) “Gene Therapy for Neurodegenerative Diseases”	
16:30~17:30	Oral Session 1: Cancer I (OR7~OR12)	<i>Chairpersons: Hiroyuki Nakai & Toshihiko Wakabayashi</i>
17:30~18:30	Oral Session 2: Cancer II (OR13~OR18)	<i>Chairpersons: Toya Ohashi & Masato Yamamoto</i>
19:00~19:30	Poster Discussion (PO57~PO88)	
19:00~20:00	Get-Together	

Time Table

Day II Friday, June 29

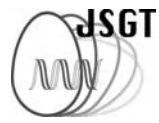
- 09:00~11:00 **Symposium II (E)**
“Recent Cancer Gene Therapy Translational Research Program in Japan”
Chairpersons: Toshiyoshi Fujiwara & Kenzaburo Tani
Hiroyuki Inoue (Medical Institute of Bioregulation Kyushu University)
“Oncolytic virotherapy using novel RNA viruses”
Kazunori Aoki (National Cancer Center Research Institute)
“Combination therapy of hematopoietic stem cell transplantation and intratumoral interferon gene transfer to sarcoma”
Tomoki Todo (The Institute of Medical Science, The University of Tokyo)
“An ongoing clinical trial of a third-generation recombinant oncolytic hsv-1 (G47Δ) in recurrent glioblastoma patients”
Yasutomo Nasu (Okayama University Hospital)
“Prostate cancer gene therapy as translational research”
Hiroaki Ikeda (Mie University Graduate School of Medicine)
“Clinical application of gene-modified lymphocytes for cancer immunotherapy”
Masato Abei (University of Tsukuba)
“Targeted and armed oncolytic vaccinia virus jx-594 for treating advanced liver cancers: recent advances in global clinical trials and our clinical trial plan in Japan”
- 09:00~09:50 Oral Session 3: Basic Science-I (OR19~OR23) *Chairpersons: Shuji Kubo & Takashi Okada*
- 09:00~12:00 Poster Viewing (continue from Day 1: display alone)
- 09:50~10:40 Oral Session 4: Basic Science-II (OR24~OR28) *Chairpersons: Katsuto Tamai & Takanori Yokota*
- 10:40~11:30 Oral Session 5: Genetic Diseases (OR29~OR33) *Chairpersons: Akihiro Kume & Makoto Otsu*
- 11:30~12:00 **Educational Lecture I** *Chairperson: Fumio Endo*
Hideyuki Okano (Keio University School of Medicine)
“Investigation of CNS Disorders and Regeneration by using Reprogramming Technologies”
- 12:00~12:50 Corporate Seminar III (AnGes MG, Inc.)
Kimitoshi Nakamura (Kumamoto University School of Medicine) *Chairperson: Torayuki Okuyama*
“Screening for lysosomal storage disorders”
Torayuki Okuyama (National Center for Child Health and Development)
“Treatment for lysosomal Storage Diseases” *Chairperson: Kimitoshi Nakamura*
- Corporate Seminar IV (TAKARA BIO INC.) *Chairperson: Kazuto Takesako*
Shinichi Kageyama (Mie University Graduate School of Medicine)
“Updates of gene-modified cell therapy as a cancer treatment”
- 13:00~14:40 **Symposium III (E)**
“Regenerative Medicine” *Chairpersons: Keiya Ozawa & Toshio Suda*
Toshio Suda (Keio University School of Medicine)
“Stem cell metabolism in hypoxic niche”
Ryuichi Nishinakamura (Kumamoto University)
“Nephron progenitors in the embryonic kidney”
Markus Grompe (Oregon Health & Science University)
“Therapeutic Liver Repopulation”
Masashi Urabe (Jichi Medical University)
“Manipulating the genome in stem cells”
Takumi Era (Kumamoto University)
“Studying the intractable diseases using pluripotent stem cells”
- 13:00~14:00 Oral Session 6: Vector I (OR34~OR39) *Chairpersons: Yumi Kanegae & Yoshikazu Yonemitsu*
- 14:00~15:00 Oral Session 7: Vector II (OR40~OR45) *Chairpersons: Hiroaki Mizukami & Mahito Nakanishi*
- 15:00~15:40 **Special Lecture IV (E)** *Chairperson: Hiroyuki Nunoi*
Harry L. Malech (National Institute of Allergy and Infectious Diseases, USA)
“Oxidase normal neutrophils differentiated from genetically corrected induced pluripotent stem cells generated from patients with X-linked chronic granulomatous disease”
- 15:40~16:00 Coffee Break
- 16:00~16:30 **European Report**
Fabrizia Bignami (GSK Rare Diseases) *Chairperson: Kimitoshi Nakamura*
“Gene therapy for rare diseases: the example of a unique collaboration”

- 16:30~17:00 **Educational Lecture II** *Chairperson: Hideaki Tahara*
Hideyuki Saya (Keio University School of Medicine)
 “Current status of cancer stem cell research”
- 17:00~18:20 **Symposium IV (E)** *Chairpersons: Torayuki Okuyama & Shoji Tsuji*
“Genetic Disorders, Genome and Therapy”
Shoji Tsuji (The University of Tokyo Hospital)
 “Elucidating the molecular basis of neurodegenerative diseases based on personal genome analysis”
Mitsuyoshi Nakao (Kumamoto University)
 “Mechanism of epigenetic cell regulation as an emerging therapeutic target”
Tatsushi Toda (Kobe University Graduate School of Medicine)
 “Molecular targeting therapy for muscular dystrophies”
Torayuki Okuyama (National Center for Child Health and Development)
 “Novel Therapeutic Approach for Inherited Metabolic Diseases”

18:30~21:00 **Welcome Reception**

Day III Saturday, June 30

- 08:30~10:30 **Symposium V (E & J)** *Chairpersons: Izumu Saito & Tomoki Todo*
“New development of Gene Therapy Vectors”
Yumi Kanegae (The Institute of Medical Science, The University of Tokyo)
 “Recent Advance of Adenovirus vector: low-inflammatory and cell/tissue-specific”
Shuji Kubo (Hyogo College of Medicine)
 “Hybrid Vectors as Trojan Horses; Adventure with Adenovirus for Long-term Gene Expression Through Permanent Chromosomal Integration”
Hiroyuki Nakai (Oregon Health & Science University School of Medicine)
 “High-resolution mapping of AAV capsid amino acids of functional and structural significance by virus barcoding: A new approach to develop next generation gene delivery vectors”
Hiroshi Fukuhara (Graduate School of Medicine, The University of Tokyo)
 “Development of novel oncolytic HSV-1 using tumor/tissue specific promoters”
Yoshikazu Yonemitsu (Kyushu University)
 “Recombinant Sendai Virus as Biodevices”
Shun’ichiro Taniguchi (Shinshu University Graduate School of Medicine)
 “DDS Targeting hypoxic environment of solid cancer with anaerobic Bifidobacterium bifidum”
- 08:30~09:30 Oral Session 8:Cancer III (OR46~OR51) *Chairpersons: Hideki Kasuya & Yasutomo Nasu*
- 09:30~10:20 Oral Session 9:Cardiovascular Diseases (OR52~OR56) *Chairpersons: Ken-ichiro Kosai & Hironori Nakagami*
- 10:30~11:00 **Educational Lecture III** *Chairperson:Yoshikazu Yonemitsu*
Takashi Shimada (Nippon Medical School)
 “Gene Therapy in Japan, Problems and Prospects”
- 11:00~12:40 **Symposium VI (E)** *Chairpersons: Hiromi Kumon & Masatoshi Tagawa*
 Asian Session **“Future of Asia Network”**
Wuh-Liang Hwu (National Taiwan University, Taiwan)
 “Gene Therapy for Aromatic L-Amino Acid Decarboxylase Deficiency in 8 patients”
Shu-Wha Lin (National Taiwan University, Taiwan)
 “Gene transfer and immune modulation to facilitate liver cell engraftment in hemophilia b mouse model”
Ming Yuan (Queen Mary University of London, UK)
 “Development of new cancer therapeutic regimes using rationally designed oncolytic adenovirus and vaccinia virus”
Yun-Hee Kim (National Cancer Center, Republic of Korea)
 “Targeting and therapeutic strategy for adenovirus-mediated hepatocellular carcinoma treatment: trans-splicing ribozyme”
Xing-Jie Liang (National Center for Nanosciences and Technology of China, P.R. China)
 “Current Status of Gene Therapy Improved with Nanotechnology in China”
- 12:40~13:00 **Closing Remarks: President Fumio Endo & Welcome Greetings from the Next President: Toshiyoshi Fujiwara**



PROGRAM

Presidential Lecture

Date: June 28, 2012, 13:30-13:50, Terrsa Hall
 Chairperson: Shigetaka Asano

Fumio Endo (*Kumamoto University School of Medicine*)
A new era for treatment of genetic diseases

Board Chairman's Lecture

Date: June 28, 2012, 13:50-14:30, Terrsa Hall
 Chairperson: Shigetaka Asano

Yasufumi Kaneda (*Graduate School of Medicine, Osaka University*)
Future direction of gene therapy

Special Lecture I (E)

Date: June 28, 2012, 14:50-15:30, Terrsa Hall
 Chairperson: Yoshikatsu Eto

Nathalie Cartier-Lacave (*University Paris-Descartes, SFTCG*)
Gene therapy strategies for genetic leukodystrophies

Special Lecture II (E)

Date: June 28, 2012, 15:30-16:10, Terrsa Hall
 Chairperson: Yasufumi Kaneda

Xandra O. Breakefield (*Massachusetts General Hospital Neurogenetics Unit, ASGCT*)
Gene therapy for schwannomas using AAV-caspase and extracellular vesicle-pro-drug activation

Special Lecture III (E)

Date: June 28, 2012, 16:10-16:50, Terrsa Hall
 Chairperson: Kohnosuke Mitani

Markus Grompe (*Oregon Health & Science University, USA*)
Gene therapy for genetic liver diseases

Special Lecture IV (E)

Date: June 29, 2012, 15:00-15:40, Terrsa Hall
 Chairperson: Hiroyuki Nuno

Harry L. Malech (*National Institute of Allergy and Infectious Diseases, USA*)
Oxidase normal neutrophils differentiated from genetically corrected induced pluripotent stem cells generated from patients with X-linked chronic granulomatous disease

Educational Lecture I

Date: June 29, 2012, 11:30-12:00, Terrsa Hall
 Chairperson: Fumio Endo

Hideyuki Okano (*Keio University School of Medicine*)
Investigation of CNS disorders and regeneration by using reprogramming technologies

Educational Lecture II

Date: June 29, 2012, 16:30-17:00, Terrsa Hall
 Chairperson: Hideaki Tahara

Hideyuki Saya (*Keio University School of Medicine*)
Current status of cancer stem cell research

Educational Lecture III

Date: June 30, 2012, 10:30-11:00, Terrsa Hall
 Chairperson: Yoshikazu Yonemitsu

Takashi Shimada (*Nippon Medical School*)
Gene Therapy in Japan, Problems and Prospects

Symposium I (E)

Progress in Gene Therapy

Gene Therapy Clinical Trials for Non-Tumor Disorders

Date: June 28, 2012, 16:50-18:30, Terrsa Hall

Chairpersons: Ryuichi Morishita & Masafumi Onodera

- S1-1. Masafumi Onodera** (*National Center for Child Health and Development*)
Gene therapy for primary immunodeficiencies
- S1-2. Yasuhiro Ikeda** (*Graduate School of Medical Sciences, Kyushu University*)
Neuroprotective gene therapy to treat patients with retinitis pigmentosa
- S1-3. Ryuichi Morishita** (*Graduate School of Medicine, Osaka University*)
Current status and future prospect of cardiovascular gene therapy
- S1-4. Shin'ichi Takeda** (*National Center for Neurology and Psychiatry*)
Gene therapy for neuromuscular disorders
- S1-5. Hideki Mochizuki** (*Graduate School of Medicine, Osaka University*)
Gene therapy for neurodegenerative diseases

Symposium II (E)

Recent Cancer Gene Therapy Translational Research Program in Japan

Date: June 29, 2012, 9:00-11:00, Terrsa Hall

Chairpersons: Toshiyoshi Fujiwara & Kenzaburo Tani

- S2-1. Hiroyuki Inoue** (*Medical Institute of Bioregulation, Kyushu University*)
Oncolytic virotherapy using novel RNA viruses
- S2-2. Kazunori Aoki** (*National Cancer Center Research Institute*)
Combination therapy of hematopoietic stem cell transplantation and intratumoral interferon gene transfer to sarcoma
- S2-3. Tomoki Todo** (*The Institute of Medical Science, The University of Tokyo*)
An ongoing clinical trial of a third-generation recombinant oncolytic HSV-1 (G47Δ) in recurrent glioblastoma patients
- S2-4. Yasutomo Nasu** (*Okayama University Hospital*)
Prostate cancer gene therapy as translational research
- S2-5. Hiroaki Ikeda** (*Mie University Graduate School of Medicine*)
Clinical application of gene-modified lymphocytes for cancer immunotherapy
- S2-6. Masato Abei** (*University of Tsukuba*)
**Targeted and armed oncolytic vaccinia virus JX-594 for treating advanced liver cancers:
Recent advances in global clinical trials and our clinical trial plan in Japan**

Symposium III (E)

Regenerative Medicine

Date: June 29, 2012, 13:00-14:40, Terrsa Hall

Chairpersons: Keiyo Ozawa & Toshio Suda

- S3-1. Toshio Suda (*Keio University School of Medicine*)
Stem cell metabolism in hypoxic niche
- S3-2. Ryuichi Nishinakamura (*Kumamoto University*)
Nephron progenitors in the embryonic kidney
- S3-3. Markus Grompe (*Oregon Health & Science University*)
Therapeutic Liver Repopulation
- S3-4. Masashi Urabe (*Jichi Medical University*)
Manipulating the genome in stem cells
- S3-5. Takumi Era (*Kumamoto University*)
Studying the intractable diseases using pluripotent stem cells

Symposium IV (E)

Genetic Disorders, Genome and Therapy

Date: June 29, 2012, 17:00-18:20, Terrsa Hall

Chairpersons: Torayuki Okuyama & Shoji Tsuji

- S4-1. Shoji Tsuji (*The University of Tokyo Hospital*)
Elucidating the molecular basis of neurodegenerative diseases based on personal genome analysis.
- S4-2. Mitsuyoshi Nakao (*Kumamoto University*)
Mechanism of epigenetic cell regulation as an emerging therapeutic target
- S4-3. Tatsushi Toda (*Kobe University Graduate School of Medicine*)
Molecular targeting therapy for muscular dystrophies
- S4-4. Torayuki Okuyama (*National Center for Child Health and Development*)
Novel therapeutic approach for inherited metabolic diseases

Symposium V (E & J)

New Development of Gene Therapy Vectors

Date: June 30, 2012, 8:30-10:30, Terrsa Hall

Chairpersons: Izumu Saito & Tomoki Todo

- S5-1. Yumi Kanegae (*The Institute of Medical Science, The University of Tokyo*)
Recent advance of adenovirus vector: Low-inflammatory and cell/tissue-specific
- S5-2. Shuji Kubo (*Hyogo College of Medicine*)
Hybrid Vectors as Trojan Horses; Adventure with Adenovirus for Long-term Gene Expression Through Permanent Chromosomal Integration
- S5-3. Hiroyuki Nakai (*Oregon Health & Science University School of Medicine*)
High-resolution mapping of AAV capsid amino acids of functional and structural significance by virus barcoding: A new approach to develop next generation gene delivery vectors

S5-4. Hiroshi Fukuhara (*Graduate School of Medicine, The University of Tokyo*)
Development of novel oncolytic HSV-1 using tumor/tissue specific promoters

S5-5. Yoshikazu Yonemitsu (*Kyushu University*)
Recombinant Sendai Virus as Biodevices

S5-6. Shun'ichiro Taniguchi (*Shinshu University Graduate School of Medicine*)
DDS Targeting hypoxic environment of solid cancer with anaerobic *Bifidobacterium bifidum*

Symposium VI (E)

Asian Session

Future of Asia Network

Date: June 30, 2012, 11:00-12:40, Terrsa Hall
Chairpersons: Hiromi Kumon & Masatoshi Tagawa

S6-1. Wuh-Liang Hwu (*National Taiwan University, Taiwan*)
Gene therapy for aromatic L-amino acid decarboxylase deficiency in 8 patients

S6-2. Shu-Wha Lin (*National Taiwan University, Taiwan*)
Gene transfer and immune modulation to facilitate liver cell engraftment in hemophilia B mouse model

S6-3. Ming Yuan (*Queen Mary University of London, UK*)
Development of new cancer therapeutic regimes using rationally designed oncolytic adenovirus and vaccinia virus

S6-4. Yun-Hee Kim (*National Cancer Center, Republic of Korea*)
Targeting and therapeutic strategy for adenovirus-mediated hepatocellular carcinoma treatment: Trans-splicing ribozyme

S6-5. Xing-Jie Liang (*National Center for Nanosciences and Technology of China, P. R. China*)
Current status of gene therapy improved with nanotechnology in China

European Report (E)

Date: June 29, 2012, 16:00-16:30, Terrsa Hall
Chairperson: Kimitoshi Nakamura

Fabrizia Bignami (*GSK Rare Diseases*)
Gene therapy for rare diseases: the example of a unique collaboration

3rd Takara Bio Award Lecture

Date: June 28, 2012, 11:40-11:55, Terrsa Hall
Chairperson: Yasufumi Kaneda

Yasuhiro Ikeda (*Graduate School of Medical Sciences, Kyushu University*)
"Pigment epithelium-derived factor gene therapy targeting retinal ganglion cell injuries: Neuroprotection against loss of function in two animal models"

Best Presentation (E) (Abstracts BP1~BP6)

Date: June 28, 2012, 10:10-11:40, Terrsa Hall
Chairpersons: Yoshiro Niitsu & Takashi Shimada

BP-1. AADC gene therapy for parkinson disease: Long-term outcomes and preliminarily results of an autopsy case

Muramatsu S., Fujimoto K., Kato S., Asari S., Mizukami H., Nakamura Y., Ikeguchi K., Kawakami T., Urabe M., Kume A., Sato T., Watanabe E., Fukushima N., Ozawa K., Nakano I.

BP-2. A phase I/II study of reduced expression in immortalized cells (REIC/DKK-3) gene therapy for prostate cancer; A summary of neoadjuvant group

Sasaki K., Nasu Y., Kaku H., Watanabe M., Tanimoto R., Hirata T., Ebara S., Watanabe T., Yanai H., Kumon H.

BP-3. Cancer immunotherapy using a novel platelet vector incorporating viral particles

Nishikawa T., Kaneda Y.

BP-4. Tissue-detargeting AAV9 mutants identified by comprehensive alanine scanning of the capsid protein

Adachi K., Enoki T., Kawano Y., Nakai H.

BP-5. Consecutive biallelic gene targeting of the OCT3/4 locus in human iPS cells using helper-dependent adenoviral vectors

Mitani K., Nakayama M., Koseki H.

BP-6. Generation and characterization of iPS cells derived from peripheral T lymphocytes of two ADA-SCID patients treated with gene therapy

Inaki M., Onodera M.

Day 1: June 28, 2012

Oral Session 1 (Abstracts OR7~OR12) Cancer I

16:30-17:30, Taiju-Kita Hall
Chairpersons: Hiroyuki Nakai & Toshihiko Wakabayashi

OR-7. Intravenous human adenovirus 40 vaccine inhibits growth and metastasis of pancreatic cancer

Yamasaki S., Miura Y., Davydova J., Vickers S. M., Yamamoto M.

OR-8. A Del1 peptide improves the efficiency of FasL gene therapy with a non-viral vector in a mouse explanted tumor model

Kitano H., Mamiya A., Komiya M., Kokubun S., Hidai C.

OR-9. Activation of p53 pathways produces combinatory effects with chemotherapeutic agents on p53 wild-type mesothelioma

Tagawa M., Kawamura K., Yang S., Jiang Y., Chai K., Yamaguchi N., Tada Y., Takiguchi Y., Tatsumi K., Shimada H., Hiroshima K.

OR-10. Cilengitide, integrin inhibitor, enhances anti-glioma efficacy of vasculostatin-expressing oncolytic virus

Shimazu Y., Kurozumi K., Ichikawa T., Fujii K., Onishi M., Ishida J., Chiocca E. A., Kaur B., Date I.

OR-11. Antitumor effect of herpes simplex virus type 1 mutant HF10 in combination with irradiation

Kohno S., Chiwata E., Furui S., Tsuda H., Mineno J.

OR-12. Is host immune response foe or reinforcement for tumor reducing effect of oncolytic virus?

Hideki K., Gewen T., Sahin T. T., Yamamura K., Hotta Y., Fukuta S., Takeda S., Nakao A., Koderia Y., Tanaka M., Takesako K.

**Oral Session 2 (Abstracts OR13~OR18)
Cancer II**

17:30-18:30, Taiju-Kita Hall

Chairpersons: Toya Ohashi & Masato Yamamoto

- OR-13. Integrin inhibitor cilengitide enhances anti-glioma efficacy of oncolytic viral therapy**
Kurozumi K., Ichikawa T., Fujii K., Shimazu Y., Onishi M., Ishida J., Chiocca E. A., Kaur B., Date I
- OR-14. Omics analysis of the anti-glioma effect by vasculostatin-expressing oncolytic viral therapy combined with cilengitide**
Fujii K., Kurozumi K., Ichikawa T., Onishi M., Shimazu Y., Ishida J., Chiocca E. A., Kaur B., Date I.
- OR-15. Antitumor effect of oncolytic adenovirus-based interferon therapy in combination with chemoradiotherapy in an immunocompetent hamster model**
Han J., Nelson S. R., Santos T. D., Shanley R., Xianghua L., Aoki K., Vickers S. M., Yamamoto M., Davydova J.
- OR-16. Development of peritoneal tumor-targeting vector by *in vivo* screening with a random peptide-displaying adenovirus library**
Yamamoto Y., Nishimoto T., Yoshida K., Goto N., Ohnami S., Yoshida T., Aoki K.
- OR-17. Coxsackievirus B3 is an immunostimulatory oncolytic virus active against lung adenocarcinoma**
Miyamoto S., Inoue H., Wang B, Sakamoto C., Narusawa M., Nakamura T., Yamada M., Urata Y., Takayama K., Nakanishi Y., Shimizu H., Tani K.
- OR-18. Novel engineered oncolytic Edmonston strain of measles virus elicits remarkable oncolytic activity against non-small cell lung cancer stem cells**
Inoue H., Sakamoto A., Yasunari K., Miyamoto S., Matsumura Y., Nosaki K., Takayama K., Nakanishi Y., Tani K.

Day 2: June 29, 2012

**Oral Session 3 (Abstracts OR19~OR23)
Basic Science I**

9:00-9:50, Taiju-Kita Hall

Chairpersons: Shuji Kubo & Takashi Okada

- OR-19. Systemic oncolytic virotherapy with tumor-specific replicating vaccinia viruses**
Hikichi M., Kidokoro M., Shida H., Tahara H., Nakamura T.
- OR-20. Infectivity-selective oncolytic adenovirus developed by screening of high diversity targeting ligand library in the format of adenovirus capsid**
Miura Y., Yamasaki S., Davydova J., Yamamoto M.
- OR-21. New method for investigating genetic mutations of circulating tumor cells using a telomerase-specific replication-competent adenovirus**
Shigeyasu K., Hashimoto Y., Kagawa S., Uno F., Tazawa H., Nagasaka T., Kyo S., Mizuguchi H., Urata Y., Fujiwara T.
- OR-22. Development of a novel adenovirus vector by incorporating microRNA-targeted sequences into E2A, E4, or pIX genes for suppression of the leaky expression of adenovirus genes**
Shimizu K., Sakurai F., Tachibana M., Mizuguchi H.
- OR-23. Enhancement of adenovirus vector-mediated RNAi effect by lacking VA-RNA expression**
Machitani M., Sakurai F., Tachibana M., Katayama K., Matsui H., Suzuki T., Kawabata K., Mizuguchi H.

Oral Session 4 (Abstracts OR24~OR28)
Basic Science II

9:50-10:40, Taiju-Kita Hall

Chairpersons: Katsuto Tamai & Takanori Yokota

- OR-24. One step human iPS cell induction and gene targeting using viral vectors**
Mitani K., Aizawa E., Ohtaka M., Nishimura K., Nakanishi M.
- OR-25. Gene targeting in human iPS cells with helper-dependent adenoviral vector and tale nucleases**
Mitani K., Mussolino C., Cathomen T.
- OR-26. Identification of a galactose binding motif in the AAV9 capsid and its exploitation to create AAV9-like AAV2 vectors**
Adachi K., Enoki T., Kawano Y., Nakai H.
- OR-27. The inflammatory cytokine interleukin-1 supports ex vivo amplification of hematopoietic stem cells**
Ooehara J., Kakuta S., Iwakura Y., Otsu M., Nakauchi H.
- OR-28. Characterization of common marmoset dysgerminoma-like tumors generated by the transduction of reprogramming factors**
Yamaguchi S., Marumoto T., Nii T., Kawano H., Liao J., Nagai Y., Okada M., Takahashi A., Inoue H., Sasaki E., Okano S., Miura Y., Tani K.

Oral Session 5 (Abstracts OR29~OR33)
Genetic Diseases

10:40-11:30, Taiju-Kita Hall

Chairpersons: Akihiro Kume & Makoto Otsu

- OR-29. Strategy for efficient generation of DMD model marmoset with rAAV-mediated transduction**
Okada H., Ishibashi H., Hayashita-Kinoh H., Chiyo T., Nitahara-Kasahara Y., Okada T., Takeda S.
- OR-30. Relationship between vector dose and factor IX expression in non-human primates following IV administration of AAV8 vectors**
Mizukami H., Mimuro J., Tsukahara T., Urabe M., Kume A., Ohmori T., Madoiwa S., Sakata Y., Ozawa K.
- OR-31. Effective transgene expression in non-human primate muscle with AAV type 9 vectors following immune suppression**
Ishii A., Okada H., Hayashita-Kinoh H., Shin J-H., Okada T., Takeda S.
- OR-32. Successful treatment of adult MLD model mice by intrathecal administration of AAV9 vector**
Miyake N., Miyake K., Sakai A., Yamamoto M., Endo A., Suzuki H., Shimada T.
- OR-33. CXCR4/SDF-1 α axis recruits bone marrow-derived PDGFR α -positive cells to regenerate epidermolysis bullosa mouse skin**
Iinuma S., Tamai K., Kikuchi Y., Fujita R., Kaneda Y.

Oral Session 6 (Abstracts OR34~OR39)
Vector I

13:00-14:00, Taiju-Kita Hall

Chairpersons: Yumi Kanegae & Yoshikazu Yonemitsu

- OR-34. Enhanced transduction of human malignant mesothelioma cells by midkine promoter-driven oncolytic adenovirus with Ad35 fiber modification**
Takagi-Kimura M., Tamamoto A., Okamura N., Maeyama Y., Tagawa M., Kasahara N., Okamura H., Hashimoto-Tamaoki T., Kubo S.

- OR-35. REIC/Dkk-3 encoding adenoviral vector (Ad-REIC) as a potentially effective therapeutic agent for bladder cancer**
Hirata T., Watanabe M., Sasaki K., Tanimoto R., Ebara S., Kaku H., Watanabe T., Nasu Y., Kumon H.
- OR-36. $\gamma\delta$ T cell transports adenovirus vector for prostate cancer cells**
Naoe M., Ogawa Y., Hasebe Y., Suzuki T., Aoi T., Mizuguchi H., Terao S.
- OR-37. Efficacy and safety of oncolytic adenovirus combined with UPRT/5-FU suicide gene system: Evaluation in syngenic pancreatic cancer model in immunocompetent, adenovirus-permissive Syrian hamsters**
Hasegawa N., Abei M., Fukuda K., Kawashima R., Seo E., Wakayama M., Hamada H., Yokoyama K. K., Obata Y., Hyodo I.
- OR-38. Novel less invasive therapeutic intervention for early-stage colorectal cancers using telomerase-dependent replicating adenoviral agent**
Kikuchi S., Kishimoto H., Tazawa H., Hashimoto Y., Uno F., Nishizaki M., Kagawa S., Urata Y., Hoffman R. M., Fujiwara T.
- OR-39. Development of foamy virus vectors for primary immunodeficiencies**
Uchiyama T., Horino S., Sasahara Y., Ishii N., Candotti F.

**Oral Session 7 (Abstracts OR40~OR45)
 Vector II**

14:00-15:00, Taiju-Kita Hall

Chairpersons: Hiroaki Mizukami & Mahito Nakanishi

- OR-40. Refinement of “siTCR” retroviral vector to improve the efficacy and safety in TCR gene therapy**
Okamoto S., Goto Y., Amaishi Y., Nukaya I., Ikeda H., Fujiwara H., Kuzushima K., Yasukawa M., Shiku H., Mineno J.
- OR-41. Evaluation of “siTCR” vectors using novel mouse model of T cell receptor gene therapy**
Imai N., Kawamura A., Yamane M., Wang L., Shirakura K., Amaike C., Goto Y., Okamoto S., Mineno J., Takesako K., Ikeda H., Shiku H.
- OR-42. Development of large-scale retroviral transduction method assisted by fibronectin fragment CH-296 in combination with low-temperature-shaking**
Dodo K., Chono H., Saito N., Mineno J.
- OR-43. An arginine/lysine-rich nucleolar localization signal within the AAV2 Assembly-Activating Protein constrains the structural diversity of the AAV2 capsid**
Kawano Y., Adachi K., Dai M., Sun X-X., Nakai H.
- OR-44. Effect of adenovirus-neutralizing antibody on adenovirus vector-mediated transgene expression following intratumoral injection**
Tomita K., Sakurai F., Tachibana M., Mizuguchi H.
- OR-45. Survivin-responsive conditionally replicating adenovirus efficiently kills rhabdomyosarcoma-initiating cells: A promising m-CRA strategy for treating cancer stem cells**
Tanoue K., Wang Y., Ikeda M., Mitsui K., Setoguchi T., Komiya S., Natsugoe S., Kosai K.

Day 3: June 30, 2012

Oral Session 8 (Abstracts OR46~OR51)
Cancer III

8:30-9:30, Taiju-Kita Hall

Chairpersons: Hideki Kasuya & Yasutomo Nasu

- OR-46. CD19-specific T-cell therapy for drug-resistant Philadelphia-chromosome-positive acute lymphoblastic leukemia using piggyBac transposons**
Nakazawa Y., Saito S., Tanaka M., Koike K.
- OR-47. Combination treatment using adenovirus-mediated tumor necrosis factor-alpha gene transfer and NF- κ B inhibitor for hepatocellular carcinoma in mice**
Haruki K., Yanaga K., Iwase R., Fujiwara Y., Furukawa K., Shimada Y., Iida T., Shiba H., Uwagawa T., Kobayashi H., Misawa T., Ohashi T.
- OR-48. Prostate-specific restoration of ICP6 function increases efficacy of oncolytic HSV-1 against slow-growing prostate carcinoma**
Takeshima Y., Fukuhara H., Jiangang H., Homma Y., Ino Y., Todo T.
- OR-49. Highly efficient generation of induced pluripotent stem cells by the inhibition of Pten tumor suppressor**
Liao J., Marumoto T., Yamaguchi S., Okano S., Takeda N., Sakamoto C., Kawano H., Nii T., Nagai Y., Okada M., Miura Y., Shimoda S., Inoue H., Takahashi A., Tanaka M., Nagatoshi K., Yamamura K., Kawahara K., Suzuki A., Tani K.
- OR-50. Oncolytic herpes simplex virus type 1 targeting cancer stem-like cells**
Nakatsubo T., Fukuhara H., Takahashi M., Ino Y., Todo T.
- OR-51. Combination therapy for renal cell cancer using an oncolytic HSV-1 armed with soluble B7-1 and anti-CTLA4 antibody**
Tsurumaki-Sato Y., Fukuhara H., Jiangang H., Takeshima Y., Homma Y., Ino Y., Todo T.

Oral Session 9 (Abstracts OR52~OR56)
Cardiovascular Diseases

9:30-10:20, Taiju-Kita Hall

Chairpersons: Ken-ichiro Kosai & Hironori Nakagami

- OR-52. A single oral administration of human adenovirus 40 vaccine against allergy and anaphylaxis**
Yamasaki S., Miura Y., Davydova J., Vickers S. M., Yamamoto M.
- OR-53. HoxB4-transduction of human HSC results in longer-term engraftment compared to busulfan-conditioning in sheep after in utero transplantation**
Abe T., Nitta S., Masuda S., Hayashi S., Nagao Y., Hanazono Y.
- OR-54. Pre-clinical study for HIV-1 gene therapy; *In vivo* safety and efficacy of endoribonuclease MazF transduced CD4+ T cells in the presence of SHIV 89.6P infection using primate model**
Saito N., Chono H., Shibata H., Ageyama N., Yasutomi Y., Mineno J.
- OR-55. Gene modification of human NK cells by CEA specific chimeric antigen receptor**
Tosaka Y., Ideno M., Okamoto S., Amaishi Y., Enoki T., Mineno J.
- OR-56. *In vitro* transduction properties of a novel targeted adenovirus vector displaying monobody binding to vascular endothelial growth factor receptor 2 in a fiber protein**
Matsui H., Sakurai F., Tachibana M., Kurachi S., Katayama K., Mizuguchi H.

Poster Session

Date: June 28, 2012, 19:00-19:30, Taiju-Minami Hall

□ : Best Poster

Basic Science (Abstracts: PO57~PO65)

PO-57. Shakuyaku-kanzo-to promotes recombinant AAV cellular uptake to enhance transduction of cultured mammalian cells

Chiyo T., Hayashita-Kinoh H., Nitahara-Kasahara Y., Okada H., Okada T., Takeda S.

PO-58. Engineering of gene therapy for neuropathic pain by silencing of TNF α in DRG from spinal nerve transection model mouse

Ogawa N., Terashima T., Oka K., Kojima H., Hayase F., Oi J., Yamakawa I., Kim H., Chan L., Kawai H.

PO-59. Effective transfer of morpholino into muscle cells by using AAV empty capsids

Hayashita-Kinoh H., Okada H., Chiyo T., Nitahara-Kasahara Y., Okada T., Takeda S.

PO-60. Six in a single particle: Novel non-transmissible measles virus vector for delivery of six genes all together

Tahara M., Miura Y., Kurita R., Ryo A., Tani K., Takeda M.

PO-61. Autologous umbilical cord blood cell infusion for neonatal hypoxic-ischemic encephalopathy

Tanabe Y., Sato H., Kobayashi M., Shimizu M., Ida H., Ohashi T.

PO-62. The effect of ZFP809 on gene silencing of retroviral vectors depends on PBS located downstream of 5' LTR

Ichida Y., Sato T., Onodera M.

PO-63. Generation of antigen-specific cytotoxic memory T-cells from induced pluripotent stem cells of a single T cell clone origin

Kaneko S., Nishimura T., Kawana-Tachikawa A., Nakauchi H.

PO-64. Dry run of ex vivo transduction and expansion of human hematopoietic stem/progenitor cells toward stem cell gene therapy for chronic granulomatous disease

Yamamoto M., Onodera M.

PO-65. Efficient hematopoietic differentiation of common marmoset embryonic stem cells by the inhibition of PI3K-AKT pathway

Nii T., Marumoto T., Kawano H., Liao J., Yamaguchi S., Nagai Y., Okada M., Miura Y., Tani K.

Vector (Abstracts: PO66~PO70)

PO-66. Intrathecal shRNA-AAV9 inhibits target protein expression in the spinal cord and dorsal root ganglia of adult mice

Hirai T., Enomoto M., Machida A., Mizusawa H., Okawa A., Yokota T.

PO-67. Combination therapy of oncolytic herpes virus hrR3 and Bevacizumab against human gastric cancer xenograft.

Tan G., Kasuya H., Sahin T. T., Shikano T., Yamada S., Kanzaki A., Yamamura K., Fujii T., Sugimoto H., Nomoto S., Nishikawa Y., Takeda S., Nakao A., Koder Y.

PO-68. Structure-based optimization of FDA-approved drug methylene blue as a c-myc G-quadruplex DNA stabilizer

Ma D. L.

PO-69. Telomerase-specific oncolytic adenovirus suppresses the stem-like properties of CD133⁺ human gastric cancer MKN45 cells through microRNA modulation

Onishi T., Tazawa H., Yano S., Hashimoto Y., Kikuchi S., Shigeyasu K., Osaki S., Kagawa S., Fujiwara T.

PO-70. Development of human mesenchymal stem cell-based carriers producing retroviral replicating vectors for glioma treatment*Takahashi M., Hiraoka K., Inagaki A., Kamijima S., Tam Q., Treger J., Bogan B., Kasahara N.***Genetic Diseases (Abstracts: PO71~PO76)****PO-71. A proposal regarding clinical genetics (genetic in medicine) education for paramedics and medical technologists in Japan***Kohzaki H.***PO-72. Dystrophin restoration in dystrophic muscle using reprogrammed primary skin fibroblasts***Fujii I., Horio F., Nakano S., Ohsawa Y., Ito K., Irie T., Sunada Y., Matsukura M.***PO-73. The application of gp91phox expressing Sendai virus vector in X-CGD gene therapy***Furuta B., Uchida E., Nishimura K., Ohtaka M., Takayasu S., Nakanishi M., Yamaguchi T.***PO-74. Establishing clinically applicable, image-guided, and computer-controlled hydrodynamic gene delivery for treatment of Hemophilia B***Kanefuji T., Kamimura K., Suda T., Gao M., Zhang G., Aoyagi Y., Liu D.***PO-75. Ex vivo gene therapy of severe infantile hypophosphatasia model mice using lentiviral transduced bone marrow cells***Iijima O., Sugano H., Watanabe A., Miyake K., Shimada T.***PO-76. Recombinant lentivirus mediated gene therapy for neonatal mouse model of Krabbe disease***Kobayashi H., Shimada Y., Ariga M., Izuka S., Sato Y., Iwamoto T., Fukuda T., Eto Y., Ohashi T.***Cardiovascular (Abstracts: PO77~PO79)****PO-77. Study for establishing and banking of exogenous factors-free iPS cells from patients with intractable diseases***Yoneda K., Era T., Fusaki N., Takami Y., Nakazato H., Endo F.***PO-78. Development of dyslipidemia DNA vaccine system for lipoprotein(a)***Nakagami H., Kyutoku M., Morishita R., Kaneda Y.***PO-79. Interleukin-10 prevents the progression of peritoneal fibrosis in an animal model of peritoneal dialysis***Onishi A., Urabe M., Morishita Y., Hirahara I., Tsukahara T., Mizukami H., Kume A., Kusano E., Ozawa K.***Cancer (Abstracts: PO80~PO88)****PO-80. Molecular mechanisms of type I interferon activated STAT6 in anti-tumor activities***Wu C-M., Wan L.***PO-81. Combination of Bevacizumab and oncolytic virus hRr3 in an experimental model of pancreatic carcinoma***Sahin T. T., Kasuya H., Kanzaki A., Gewen T., Yamamura K., Fujii T., Takeda S., Sugimoto H., Kodera Y., Nakao A.***PO-82. Oncolytic adenovirus-mediated p53 gene transfer induces antitumor effect in human osteosarcoma cells***Hasei J., Sasaki T., Tazawa H., Osaki S., Hashimoto Y., Kunisada T., Urata Y., Fujiwara T., Ozaki T.***PO-83. Oncolytic effects of a fiber knob substituted adenovirus vector to human bladder carcinoma cells***Nagaya H., Terao S., Hiwasa K., Tagawa M., Gotoh A.***PO-84. Synergistic antitumor effect of combination of adenoviral gene therapy and CIK immunotherapy for prostate cancer***Saito H., Morishita N., Adhim Z., Kawabata M., Shirakawa T.*

PO-85. The hTERT promoter enhances antitumor activity of oncolytic adenovirus under a hypoxic microenvironment

Hashimoto Y., Tazawa H., Teraishi F., Uno F., Urata Y., Kagawa S., Fujiwara T.

PO-86. Genetically modified T lymphocytes targeted to CD19 mediated-cytotoxicity for B cell lymphoma

Tsukahara T., Yamamoto C., Ohmine K., Uchibori R., Ido H., Urabe M., Mizukami H., Kume A., Nakamura M., Riviere I., Sadelain M., Brentjens R. J., Ozawa K.

PO-87. Exogenous IL-6 activates dendritic cells and acts as a cancer DNA vaccine adjuvant

Wang S-T., Lin C-C.

PO-88. A role of microRNAs for sensitization to cisplatin in ovarian cancer cell lines

Kondo S., Saito I., Jones N.