THE 16th ANNUAL MEETING

JSGT2010

JAPAN SOCIETY OF GENE THERAPY

Program & Abstracts

Date
July 1-3, 2010

Venue
Tochigi-ken General Culture Center
1-8 Honcho, Utsunomiya city, 320-8530
Tochigi

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

The 16th Annual Meeting of JSGT 2010

Venue: Tochigi-ken General Culture Center, Utsunomiya, Tochigi

Time Table

(E: English presentation)

Day I Thursday, July 1

10:50~11:00 **Opening Remarks: President Keiya Ozawa**

11:00~11:45 **Plenary Session I (PL1~PL3) (E)** *Chairperson: Kenzaburo Tani*

11:45~12:00 **1st Takara Bio Award Lecture** *Chairperson: Yasufumi Kaneda*
Takashi Okada (National Center of Neurology and Psychiatry)
"Scalable purification of adeno-associated virus serotype 1 (AAV1) and AAV8 vectors, using dual ion-exchange adsorptive membranes"

12:00~19:30 Poster Viewing (PO64~PO160)

12:05~12:50 Councilor's Meeting

12:05~12:50 Corporate Seminar I *Chairperson: Kazuto Takesako*
Junichi Mineno (Center for Cell and Gene Therapy, Takara Bio Inc.)
"Introduction of tools, technologies and applications for acceleration of your research and development of gene therapy"

Corporate Seminar II *Chairperson: Yutaka Hanazono*
Noemi Fusaki (PRESTO Research Leader, Unit of Cell Therapy & Regenerative Medicine, DNAVEC Corporation)
"Efficient generation of iPS cells free from chromosomal damages and transgenes using an RNA replicon system, Sendai virus vector"

Yoshikazu Yonemitsu (R&D Laboratory for Innovative Biotherapeutics, Graduate School of Pharmaceutical Sciences, Kyushu University)
"Development of DVC1-0101, a recombinant Sendai virus expressing human FGF-2, as a RNA drug to treat peripheral arterial disease"

12:55~13:35 General Assembly

13:40~14:05 **Presidential Lecture** *Chairperson: Shigetaka Asano*
Keiya Ozawa (Jichi Medical University)
"Development of gene therapy: Current status and new directions"

14:05~14:55 **Special Lecture I (E)** *Chairperson: Keiya Ozawa*
Barrie J. Carter (ASGCT President)
"Clinical development of AAV vectors: Success in sight"

15:00~15:30 **Educational Lecture I** *Chairperson: Yasufumi Kaneda*
Hiroyuki Sasaki (Medical Institute of Bioregulation, Kyushu University)
"Epigenetics in human disorder"

15:30~16:00 **Educational Lecture II** *Chairperson: Yoshiro Niitsu*
Hideyuki Okano (Keio University School of Medicine)
"Strategies toward CNS-regeneration using iPS cell technology"

15:00~16:00 Oral Session 1-Basic Science (OR8~OR13) *Chairpersons: Kazunori Kato & Takanori Yokota*

16:00~16:15 Coffee Break

16:15~18:15 **Main Symposium: "Recent Progress in Gene Therapy" (E)**
Chairpersons: Takashi Shimada & Samuel Wadsworth
Hiroyuki Nakai (University of Pittsburgh School of Medicine, USA)
"Rapidly evolving adeno-associated viral vectors for gene therapy"
Shin-ichi Muramatsu (Jichi Medical University)
"AADC gene therapy for Parkinson's disease: A phase I study"
Shin'ichi Takeda (National Center of Neurology and Psychiatry)
"Advances of molecular therapy research on dystrophin-deficient muscular dystrophy"
Tomoki Todo (The University of Tokyo Hospital)
"A clinical study of a third-generation oncolytic HSV-1 (G47Δ) in patients with recurrent glioblastoma"
Toshiyoshi Fujiwara (Okayama University Graduate School)
"Phase I clinical trial of telomerase-specific oncolytic adenovirus for human solid tumors"

16:15~17:15 Oral Session 2-Cancer I: Oncolytic Virotherapy (OR14~OR19) *Chairpersons: Akinobu Gotoh & Hideaki Shimada*

17:15~18:15 Oral Session 3-Cancer II: Immunotherapy (OR20~OR25) *Chairpersons: Hiromi Kumon & Masato Abei*

18:20~19:30 Poster Discussion (PO64~PO160)

18:45~20:00 **Get-Together**

Day II Friday, July 2

09:00~10:00 **Asian Session (E)** *Chairpersons: Chae-Ok Yun & Masatoshi Tagawa*

Sunyoung Kim (Seoul National University, Korea)
"Enhanced angiogenesis by coexpression of two isoforms of hepatocyte growth factor from naked plasmid DNA: Results from clinical trials for coronary and peripheral artery diseases"

Yajun Guo (Second Military Medical University, China)
"Novel monoclonal antibodies for cancer immunotherapy"

Kam M. Hui (National Cancer Center, Singapore)
"Targeting and eradicating human hepatocellular carcinoma cells in vivo with bone marrow-derived human mesenchymal stem cells transduced with oncolytic measles virus"

09:00~09:30 **Technical Seminar I** *Chairperson: Mahito Nakanishi*

Makoto Otsu (The Institute of Medical Science, The University of Tokyo)
"Application of emerging technologies to the gene and cellular therapy research: Introduction of an automated fluorescence microscopic imaging system"

09:00~16:00 Poster Viewing (continue from Day 1: display alone)

09:30~10:00 **Technical Seminar II** *Chairperson: Yuji Heike*

Yukio Nakamura (RIKEN BioResource Center)
"Cell Bank in Japan"

10:05~11:05 Oral Session 4-Vector I: Molecular Aspects (OR26~OR31) *Chairpersons: Shuji Kubo & Osam Mazda*

11:05~12:05 Oral Session 5-Vector II: Targeting (OR32~OR37) *Chairpersons: Ken-ichiro Kosai & Masashi Urabe*

10:05~12:05 **International Symposium (E)** *Chairpersons: Noriyuki Kasahara & Hiroyuki Nakai*

Frank C. Marini (M.D. Anderson Cancer Center, USA)
"Direct evidence for the use of modified mesenchymal stem/stromal cells as anticancer agents in animal models"

Xiao Xiao (University of North Carolina, USA)
"AAV-mediated regional and bodywide gene delivery of mini-dystrophin for DMD gene therapy in GRMD dog model"

Chae-Ok Yun (Yonsei University College of Medicine, Korea)
"Smart nanoconjugate; Opportunity for systemic administration of adenovirus for targeted cancer gene therapy"

Glen N. Barber (University of Miami School of Medicine, USA)
"Vesicular stomatitis virus as a viral therapeutic against cancer"

Paul D. Robbins (University of Pittsburgh School of Medicine, USA)
"Gene therapy for autoimmune diseases"

12:10~12:55 Corporate Seminar III (E) *Chairperson: Tatsutoshi Nakahata*

Samuel Wadsworth (Genzyme Corporation, Framingham, MA, USA)
"Developing a gene therapy for the treatment of neovascular age-related macular degeneration"

Corporate Seminar IV *Chairperson: Masafumi Takahashi*

Eiji Kobayashi (Jichi Medical University)
"Bio-imaging animals-Preset and future application"

13:00~13:50 **Special Lecture II (E)** *Chairperson: Hiroshi Shiku*

Richard A. Morgan (National Cancer Institute, National Institutes of Health, USA)
"Recent progress and future directions using engineered T cells for the treatment of cancer"

13:55~15:45 **Joint Symposium with the Japanese Vascular Biology and Medicine Organization (E)**

Cell Therapy & Gene Therapy: **"New Frontier of Cell & Gene Therapy Toward Clinical Application"**
Chairpersons: Ryuichi Morishita & Toshio Kitamura

Ryuichi Morishita (Osaka University Graduate School of Medicine)
"Introduction: Progress of angiogenic gene therapy"

Tohru Minamino (Chiba University Graduate School of Medicine)
"Another phase of therapeutic angiogenesis for cardiovascular disease"

Yoshiaki Taniyama (Osaka University Graduate School of Medicine)
"Hepatocyte growth factor protects senescence and function of endothelial precursor cell through PIP3/Akt inhibition"

Ryosuke Uchibori (Jichi Medical University)
"Mesenchymal stem cells as a cellular vehicle for cancer-targeted gene therapy"

Shin Kaneko (The Institute of Medical Science, The University of Tokyo)
"Leukemia immunotherapy with genetically modified T lymphocytes"

13:55~14:25 **Clinical Trial Seminar: "New Advance in Clinical Cancer Gene Therapy" (E)** *Chairperson: Toshihiko Wakabayashi*

Douglas J. Jolly (Tocagen Inc.)
"Progress to the clinic of a novel prodrug activator gene transfer technology for the treatment of cancer"

14:25~15:45 Oral Session 6-Cancer III (OR38~OR45) (E) *Chairpersons: Hideaki Tahara & Masato Yamamoto*

15:45~16:00 Coffee Break

16:00~17:00 **Plenary Session II (PL4~PL7)** *Chairpersons: Izumu Saito & Yasutomo Nasu*

17:10~18:35 **Oya Stone Museum**

18:45~20:30 **Welcome Reception**

Day III Saturday, July 3

09:00~10:30 **Joint Symposium with the Society of Immunotherapy for Hematological Malignancies (E)**
Cancer Immunotherapy & Gene Therapy: **"Genetically-engineered T-cell therapy for cancer"**
Chairpersons: Masaki Yasukawa & Hiroaki Ikeda
Masaki Yasukawa (Ehime University Graduate School of Medicine)
"Introduction"
Hiroaki Ikeda (Mie University Graduate School of Medicine)
"Gene-modified lymphocytes: A translational bridge to effective T cell therapy of cancer"
Hiroshi Fujiwara (Ehime University Hospital)
"Development of a novel anti-leukemia immuno-gene therapy using WT1-specific T-cell receptor gene transfer"
Atsushi Natsume (Nagoya University School of Medicine)
"Immunotherapy using retrovirally engineered T cells expressing chimeric antigen receptors specific to glioma-associated antigens"
Hiroyoshi Nishikawa (Immunology Frontier Research Center, Osaka University)
"Role of regulatory T cells in anti-tumor immune responses"

09:00~09:30 **Technical Seminar III** *Chairperson: Hiroyuki Mizuguchi*
Takashi Okada (National Center of Neurology and Psychiatry)
"Attractive features of AAV vector and methods for efficient production"

09:30~10:00 **Technical Seminar IV** *Chairperson: Akihiro Kume*
Atsushi Tsuji (National Institute of Radiological Sciences)
"In vivo imaging with radiolabeled antibody"

10:05~11:05 Oral Session 7-Cancer IV & Basic Technology (OR46~OR51) (E)
Chairpersons: Teruhiko Yoshida & Hiroyuki Miyoshi

11:05~12:05 Oral Session 8-Genetic, Neuromuscular & Other Diseases I (OR52~OR57) (E)
Chairpersons: Hiroyuki Nunoi & Katsuto Tamai

10:35~12:05 **Workshop《Applications of Gene Transfer Technologies》**
1) **Hideki Katagiri** (Tohoku University Graduate School of Medicine) *Chairperson: Toya Ohashi*
"Metabolic harmony via neuronal information highways"
2) **Yutaka Hanazono** (Jichi Medical University) *Chairperson: Fumio Endo*
"The generation and applications of iPS cells with Sendai virus vectors"
3) **Takahiro Ochiya** (National Cancer Center Research Institute) *Chairperson: Hirofumi Hamada*
"Molecular therapy targeting cancer stem cells"

12:10~12:55 Corporate Seminar V
Noboru Oriuchi Gunma (University Graduate School of Medicine) *Chairperson: Hideharu Sugimoto*
"Application of 18F-FDG PET for cancer management"
Corporate Seminar VI
Yutaka Kondo (Aichi Cancer Center Research Institute) *Chairperson: Atsushi Natsume*
"Clinical implications of epigenetic treatment in human malignancies"

13:00~13:30 **Educational Lecture III** *Chairperson: Yoshikatsu Eto*
Tatsutoshi Nakahata (Center for iPS Cell Research and Application (CiRA), Kyoto University)
"Various clinical applications of human induced pluripotent stem cells (iPS cells)"

13:30~14:00 **Educational Lecture IV** *Chairperson: Jun Yoshida*
Tetsuo Noda (The Cancer Institute of the Japanese Foundation for Cancer Research)
"Hunting for molecular targets of cancer therapeutics using animal models of human carcinogenesis"

13:00~14:00 Oral Session 9-Genetic, Neuromuscular & Other Diseases II (OR58~OR63)
Chairpersons: Toshinao Kawai & Makoto Migita

14:05~15:35 **Panel Discussion《Future Prospects of Gene Therapy》** *Chairpersons: Keiya Ozawa & Konosuke Mitani*
1) Hematopoietic stem cell gene therapy: **Masafumi Onodera** (National Center for Child Health and Development)
"A current situation of stem cell gene therapy"
2) AAV vector
Applications: **Koichi Miyake** (Nippon Medical School)
"Application of AAV vectors for translational research"
How can we deal with immune responses? : **Hiroaki Mizukami** (Jichi Medical University)
"Immune responses in AAV-mediated gene transfer"
3) Cancer gene therapy: **Noriyuki Kasahara** (University of California, Los Angeles, USA)
"Clinical gene therapy for cancer and leukemia: Progress and prospects"

15:35~15:45 **Closing Remarks: President Keiya Ozawa &**
Welcome Greetings from the Next President: Kenzaburo Tani

PROGRAM

Presidential Lecture

Date: July 1, 2010, 13:40-14:05, Sub-Hall
Chairperson: Shigetaka Asano

Keiya Ozawa *(Jichi Medical University)*
Development of gene therapy: Current status and new directions

Special Lecture I (E)

Date: July 1, 2010, 14:05-14:55, Sub-Hall
Chairperson: Keiya Ozawa

Barrie J. Carter *(ASGCT President; Carter BioConsulting, USA)*
Clinical development of AAV vectors: Success in sight

Special Lecture II (E)

Date: July 2, 2010, 13:00-13:50, Sub-Hall
Chairperson: Hiroshi Shiku

Richard A. Morgan *(National Cancer Institute, National Institutes of Health, USA)*
Recent progress and future directions using engineered T cells for the treatment of cancer

Educational Lecture I

Date: July 1, 2010, 15:00-15:30, Sub-Hall
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Hiroyuki Sasaki *(Medical Institute of Bioregulation, Kyushu University)*
Epigenetics in human disorder

Educational Lecture II

Date: July 1, 2010, 15:30-16:00, Sub-Hall
Chairperson: Yoshiro Niitsu

Hideyuki Okano *(Keio University School of Medicine)*
Strategies toward CNS-regeneration using iPS cell technology

Educational Lecture III

Date: July 3, 2010, 13:00-13:30, Sub-Hall
Chairperson: Yoshikatsu Eto

Tatsutoshi Nakahata *(Center for iPS Cell Research and Application (CiRA), Kyoto University)*
Various clinical applications of human induced pluripotent stem cells (iPS cells)

Educational Lecture IV

Date: July 3, 2010, 13:30-14:00, Sub-Hall
Chairperson: Jun Yoshida

Tetsuo Noda *(The Cancer Institute of the Japanese Foundation for Cancer Research)*
Hunting for molecular targets of cancer therapeutics using animal models of human carcinogenesis

Main Symposium (E)

"Recent Progress in Gene Therapy"

Date: July 1, 2010, 16:15-18:15, Sub-Hall

Chairpersons: Takashi Shimada & Samuel Wadsworth

Hiroyuki Nakai *(University of Pittsburgh School of Medicine, USA)*
Rapidly evolving adeno-associated viral vectors for gene therapy

Shin-ichi Muramatsu *(Jichi Medical University)*
AADC gene therapy for Parkinson's disease: A phase I study

Shin'ichi Takeda *(National Center of Neurology and Psychiatry)*
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Tomoki Todo *(The University of Tokyo Hospital)*
A clinical study of a third-generation oncolytic HSV-1 (G47Δ) in patients with recurrent glioblastoma

Toshiyoshi Fujiwara *(Okayama University Graduate School)*
Phase I clinical trial of telomerase-specific oncolytic adenovirus for human solid tumors

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Date: July 2, 2010, 10:05-12:05, Sub-Hall

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Frank C. Marini *(M.D. Anderson Cancer Center, Houston, USA)*
Direct evidence for the use of modified mesenchymal stem/stromal cells as anticancer agents in animal models

Xiao Xiao *(The University of North Carolina, USA)*
AAV-mediated regional and bodywide gene delivery of mini-dystrophin for DMD gene therapy in GRMD dog model

Chae-Ok Yun *(Yonsei University College of Medicine, Korea)*
Smart nanoconjugate; Opportunity for systemic administration of adenovirus for targeted cancer gene therapy

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Vesicular stomatitis virus as a viral therapeutic against cancer

Paul D. Robbins *(University of Pittsburgh School of Medicine, USA)*
Gene therapy for autoimmune diseases

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Date: July 2, 2010, 9:00-10:00, Sub-Hall

Chairpersons: Chae-Ok Yun & Masatoshi Tagawa

Sunyoung Kim *(Seoul National University, Korea)*
Enhanced angiogenesis by coexpression of two isoforms of hepatocyte growth factor from naked plasmid DNA: Results from clinical trials for coronary and peripheral artery diseases

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Novel monoclonal antibodies for cancer immunotherapy

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Targeting and eradicating human hepatocellular carcinoma cells in vivo with bone marrow-derived human mesenchymal stem cells transduced with oncolytic measles virus

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"New Frontier of Cell & Gene Therapy Toward Clinical Application"

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Ryuichi Morishita *(Osaka University Graduate School of Medicine)*
Introduction: Progress of angiogenic gene therapy

Tohru Minamino *(Chiba University Graduate School of Medicine)*
Another phase of therapeutic angiogenesis for cardiovascular disease

Yoshiaki Taniyama *(Osaka University Graduate School of Medicine)*
Hepatocyte growth factor protects senescence and function of endothelial precursor cell through PIP3/Akt inhibition

Ryosuke Uchibori *(Jichi Medical University)*
Mesenchymal stem cells as a cellular vehicle for cancer-targeted gene therapy

Shin Kaneko *(The Institute of Medical Science, The University of Tokyo)*
Leukemia immunotherapy with genetically modified T lymphocytes

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"Genetically-Engineered T-Cell Therapy for Cancer"

Date: July 3, 2010, 9:00-10:30, Sub-Hall
Chairpersons: Masaki Yasukawa & Hiroaki Ikeda

Masaki Yasukawa *(Ehime University Graduate School of Medicine)*
Introduction

Hiroaki Ikeda *(Mie University Graduate School of Medicine)*
Gene-modified lymphocytes: A translational bridge to effective T cell therapy of cancer

Hiroshi Fujiwara *(Ehime University Hospital)*
Development of a novel anti-leukemia immuno-gene therapy using WT1-specific T-cell receptor gene transfer

Atsushi Natsume *(Nagoya University School of Medicine)*
Immunotherapy using retrovirally engineered T cells expressing chimeric antigen receptors specific to glioma-associated antigens

Hiroyoshi Nishikawa *(Immunology Frontier Research Center, Osaka University)*
Role of regulatory T cells in anti-tumor immune responses

Workshop
"Applications of Gene Transfer Technologies"

Date: July 3, 2010, 10:35-12:05, Sub-Hall
Chairperson: Toya Ohashi

Hideki Katagiri *(Tohoku University Graduate School of Medicine)*
Metabolic harmony via neuronal information highways

Chairperson: Fumio Endo

Yutaka Hanazono *(Jichi Medical University)*
The generation and applications of iPS cells with Sendai virus vectors

Chairperson: Hirofumi Hamada

Takahiro Ochiya *(National Cancer Center Research Institute)*
Molecular therapy targeting cancer stem cells

Panel Discussion
"Future Prospects of Gene Therapy"

Date: July 3, 2010, 14:05-15:35, Sub-Hall
Chairpersons: Keiya Ozawa & Konosuke Mitani

Masafumi Onodera *(National Center for Child Health and Development)*
A current situation of stem cell gene therapy

Koichi Miyake *(Nippon Medical School)*
Application of AAV vectors for translational research

Hiroaki Mizukami *(Jichi Medical University)*
Immune responses in AAV-mediated gene transfer

Noriyuki Kasahara *(University of California, Los Angeles, USA)*
Clinical gene therapy for cancer and leukemia: Progress and prospects

Clinical Trial Seminar (E)
"New Advance in Clinical Cancer Gene Therapy"

Date: July 2, 2010, 13:55-14:25, Special Room
Chairperson: Toshihiko Wakabayashi

Douglas J. Jolly *(Tocagen Inc., USA)*
Progress to the clinic of a novel prodrug activator gene transfer technology for the treatment of cancer

Technical Seminar I

Date: July 2, 2010, 9:00-9:30, Special Room
Chairperson: Mahito Nakanishi

Makoto Otsu *(The Institute of Medical Science, The University of Tokyo)*
Application of emerging technologies to the gene and cellular therapy research: Introduction of an automated fluoresense microscopic imaging system

Technical Seminar II

Date: July 2, 2010, 9:30-10:00, Special Room
Chairperson: Yuji Heike

Yukio Nakamura *(RIKEN BioResource Center)*
Cell Bank in Japan

Technical Seminar III

Date: July 3, 2010, 9:00-9:30, Special Room
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Takashi Okada *(National Center of Neurology and Psychiatry)*
Attractive features of AAV vectors and methods for efficient production

Technical Seminar IV

Date: July 3, 2010, 9:30-10:00, Special Room
Chairperson: Akihiro Kume

Atsushi Tsuji *(National Institute of Radiological Sciences)*
In vivo imaging with radiolabeled antibody

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1^{st} Takara Bio Award Lecture

Date: July 1, 2010 , 11:45~12:00, Sub-Hall
Chairperson: Yasufumi Kaneda

Takashi Okada *(National Center of Neurology and Psychiatry)*
Scalable purification of adeno-associated virus serotype 1 (AAV1) and AAV8 vectors, using dual ion-exchange adsorptive membranes

Plenary Session I (E) (Abstracts PL1~PL3)

Date: July 1, 2010, 11:00-11:45, Sub-Hall
Chairperson: Kenzaburo Tani

PL-1. Simple and efficient generation of foreign-gene-free human iPS cells without chromosomal damage using Sendai virus RNA vectors
Fusaki N., Ban H., Saeki K., Tabata T., Hasegawa M.

PL-2. *Ex vivo* expansion of human HSC with genotoxicity-free Sendai virus vector transiently expressing HoxB4 assessed by sheep *in utero* transplantation
Masuda S., Abe T., Ban H., Hayashi S., Takahashi H., Inoue M., Hasegawa M., Nagao Y., Hanazono Y.

PL-3. Inhibition of TGF-beta/activin signaling in the early phase or stimulation of activin signaling in the following phase combined with Wnt-3a stimulation enhances the differentiation into cardiac myocytes in mouse embryonic stem cells
Ueno S., Shimada S., Kario K.

Plenary Session II (E) (Abstracts PL4~PL7)

Date: July 2, 2010, 16:00-17:00, Sub-Hall
Chairpersons: Izumu Saito & Yasutomo Nasu

PL-4. Functional analysis of a novel gamma-secretase inhibitor, HIG1
Hayashi H., Nakagami H., Koibuchi N., Shimamura M., Kaneda Y.

PL-5. Gene therapy for aromatic L-amino acid decarboxylase deficiency
Hwu W-L., Muramatsu S., Wu R-M., Tseng S-H., Lee N-C., Snyder R. O., Chien Y-H.

PL-6. Stem cell gene therapy for adenosine deaminase-deficiency: A report of six-year outcomes in 2 treated patients
Otsu M., Onodera M., Yamada M., Kawamura N., Kobayashi R., Kobayashi E., Kitagawa M., Mineno J., Bali P., Hershfield, M. S., Candotti F., Sakiyama Y., Ariga T.

PL-7. Autologous mononuclear cell implantation therapy for critical digit ischemia in patients with connective tissue diseases
Takahashi M., Izawa A., Ishigatsubo Y., Fujimoto K., Miyamoto M., Minota S., Horie T., Aizawa Y., Amano J., Murohara T., Matsubara H., Ikeda U.

Day 1: July 1, 2010

Oral Session 1 (Abstracts OR8~OR13)
Basic Science

15:00-16:00, Special Room
Chairpersons: Kazunori Kato & Takanori Yokota

OR-8. Generation of induced pluripotent stem cells from monkey and pig fibroblasts
Fujishiro S., Masuda S., Nishimura T., Fusaki N., Ueda Y., Hasegawa M., Takahashi K., Okita K.,Yamanaka S., Hanazono Y.

OR-9. Characterization of iPS cells generated from murine hematopoietic cells
Okabe M., Otsu M., Ahn D. H., Kobayashi T., Morita Y., Wakiyama Y., Onodera M., Eto K., Ema H., Nakauchi H.

OR-10. Gene targeting in human pluripotent stem cells with adeno-associated virus vectors
Mitani K., Mitsui K., Suzuki K., Aizawa E., Kawase E., Suemori H., Nakatsuji N.

OR-11. Search for a key molecule of dendritic cell differentiation
Harada Y., Ueda Y., Yoshida K., Ichikawa T., Yonemitsu Y.

OR-12. Induction of type I interferon by virus-associated small RNAs
Yamaguchi T., Kawabata K., Kouyama E., Suzuki T., Sakurai F., Kurachi S., Katayama K., Mizuguchi H.

OR-13. Histone deacetylases are critical targets of bortezomib-induced cytotoxicity in multiple myeloma
Kikuchi J., Wada T., Shimizu R., Izumi T., Akutsu M., Mitsunaga K., Noborio-Hatano K., Nobuyoshi M., Ozawa K., Kano Y., Furukawa Y.

Oral Session 2 (Abstracts OR14~OR19)
Cancer I: Oncolytic Virotherapy

16:15-17:15, Special Room
Chairpersons: Akinobu Gotoh & Hideaki Shimada

OR-14. Efficient killing of glioma-initiating cells derived from human glioblastoma using the third generation oncolytic HSV-1 (G47Δ)
Takahashi M., Ino Y., Saito N., Todo T.

OR-15. Intrapleural inoculation with third generation oncolytic HSV-1 (G47Δ) is highly efficacious for experimental orthotopic malignant pleural mesothelioma
Takahashi M., Ino Y., Todo T.

OR-16. Enhancement of oncolytic virotherapy for malignant glioma: Concomitant administration of type I interferon binding protein
Yoshida K., Ichikawa T., Kurozumi K., Kambara H., Fujii K., Onishi M., Michiue H., Hamada H., Chiocca E. A., Date I.

OR-17. Complete and sustained tumor regression of human malignant mesothelioma xenografts in athymic mice following local injection of midkine promoter-regulated oncolytic adenovirus
Kubo S., Kawasaki Y., Yamaoka N., Xu Y., Yamamoto H., Tagawa M., Kasahara N., Terada N., Okamura H.

OR-18. Development of a novel Coxsackievirus B oncolytic virotherapy against human lung cancer
Inoue H., Miyamoto S., Yamada M., Nakamura T., Urata Y., Shimizu H., Tani K.

OR-19. MicroRNA-regulated oncolytic vaccinia virus not only enhances the oncolytic activity but also reduces the viral pathogenicity
Nakamura T., Hikichi M., Kidokoro M., Shida H., Tahara H.

Oral Session 3 (Abstracts OR20~OR25)
Cancer II: Immunotherapy

17:15-18:15, Special Room
Chairpersons: Hiromi Kumon & Masato Abei

OR-20. Intravenous injection of irradiated tumor cell vaccine carrying oncolytic adenovirus can suppress the growth of multiple lung tumors in mouse squamous cell carcinoma model
Saito A., Hamada K., Matsuoka T., Lee K-L., Fujisawa M., Kawabata M., Shirakawa T.

OR-21. Development of anti-leukemia gene-immunotherapy using Aurora-A kinase-specific T-cell receptor gene transfer
Ochi T., Fujiwara H., Nagai K., An J., Shirakata T., Mineno J., Kuzushima K., Yasukawa M.

OR-22. The next generation TCR gene therapy: Silencing of endogenous TCR improves the efficacy of TCR gene therapy
Okamoto S., Ikeda H., Fujiwara H., Yasukawa M., Shiku H., Mineno J.

OR-23. Immune responses in prostate cancer patients received *in situ* gene therapy of repeated HSV-*tk* injection and ganciclovir administration
Kubo M., Satoh T., Tabata K., Matsumoto K., Baba S., Obata F.

OR-24. Intratumoral delivery of interferon-alpha gene enhances tumor-specific immunity and suppresses immunological tolerance after autologous hematopoietic stem cell transplantation
Narumi K., Udagawa T., Kondoh A., Yoshida T., Aoki K.

OR-25. Augmented cancer immunotherapy by the use of STAT3-depleted dendritic cells
Sumimoto H., Iwata-Kajihara T., Mizuguchi H., Takeda K., Kawakami Y.

Day 2: July 2, 2010

Oral Session 4 (Abstracts OR26~OR31)
Vector I: Molecular Aspects

10:05-11:05, Special Room
Chairpersons: Shuji Kubo & Osam Mazda

OR-26. Molecular mechanisms of restricted growth of human adenovirus type 37 in A549 cells
Mitani K., Adachi K., Moroyama Y.

OR-27. Enhanced safety profiles of conditionally-replicating adenoviruses by insertion of target sequences to microRNA downregulated in tumor cells
Sakurai F., Sugio K., Katayama K., Matsui H., Kawabata K., Fujiwara T., Mizuguchi H.

OR-28. The chicken hypersensitive site-4 chromatin insulator sequence protects clonal dominance of hematopoietic stem cells transduced with a self-inactivating SIV vector in platelet-directed gene therapy
Ohmori T., Kashiwakura Y., Ishiwata A., Madoiwa S., Akiba E., Hasegawa M., Mimuro J., Ozawa K., Sakata Y.

OR-29. Optimization of lentiviral vector transduction into peripheral blood lymphocytes in combination with the fibronectin fragment CH-296 stimulation method
Chono H., Goto Y., Yamakawa S., Tanaka S., Tosaka Y., Nukaya I., Mineno J.

OR-30. Rendering $CD4^+$ T lymphocytes resistant to HIV-1 replication via retroviral transduction of ACA-specific endoribonuclease MazF with Tat-dependent expression system
Tsuda H., Okamoto M., Chono H., Saito N., Inoue K., Baba M., Mineno J.

OR-31. Pre-clinical study for HIV-1 gene therapy using autologous transplantation of gene modified CD4+ T cells in primate models
Saito N., Tsuda H., Sakuraba T., Shibata H., Ageyama N., Chono H., Mineno J.

Oral Session 5 (Abstracts OR32~OR37)
Vector II: Targeting

11:05-12:05, Special Room
Chairpersons: Ken-ichiro Kosai & Masashi Urabe

OR-32. Efficient *in vivo* delivery of cholesterol-conjugated siRNA to the liver using endogenous chylomicron remnant
Yoshida K., Nishina K., Uno Y., Kuwahara H., Piao W., Mizusawa H., Yokota T.

OR-33. Histological analysis of *in vivo* liver-targeting pancreatic islet regeneration by helper-dependent adenovirus
Kojima H., Yechoor V., Terashima T., Chan L., Kimura H.

OR-34. Antibody-targeted selective gene and drug delivery for treatment of malignant melanoma
Hirai S., Yamaguchi M., Hamada H.

OR-35. Enhanced transduction efficiencies of fiber-substituted adenovirus vectors by incorporation of RGD peptide in two distinct regions of adenovirus serotype 35 fiber knob
Matsui H., Sakurai F., Katayama K., Kurachi S., Tashiro K., Sugio K., Kawabata K., Mizuguchi H.

OR-36. A SeV-F/HN-pseudotyped SIV vector enables long lasting expression in the murine lung, repetitive administration, and efficient tranduction to human lung slice/airway models
Inoue M., Griesenbach U., Akiba E., Meng C., Brum A., Farley R., Newman N., Alton E. W. F. W., Hasegawa M.

OR-37. Highly efficient gene delivery system into the brain through retrograde axonal transport by using lentiviral vectors pseudotyped with rabies virus glycoprotein and its derivatives
Kobayashi K., Kato S., Kobayashi K., Inoue K., Takada M.

Oral Session 6 (Abstracts OR38~OR45)
Cancer III (E)

14:25-15:45, Special Room
Chairpersons: Hideaki Tahara & Masato Yamamoto

OR-38. Cancer immunotherapy with virus-specific T cells engineered to express HER2-specific chimeric antigen receptor using piggyBac transposons system
Nakazawa Y., Wilson M. H., Rooney C. M.

OR-39. Engineered T cells using both chemokine-receptor gene and tumor-specific TCR gene transfer for adoptive therapy
An J., Fujiwara H., Ochi T., Nagai K., Shirakata T., Mineno J., Kuzushima K., Yasukawa M.

OR-40. Intra-tumor secretion of GITRL-Fc fusion protein induces and activates tumor-specific $CD8^+$ T cells resulting in tumor regression
Ikeda H., Mitsui J., Ishihara M., Hosoi H., Mineno J., Kondo S., Shiku H.

OR-41. Efficient induction of humoral and cellular immune responses against Her-2/neu by combination of naked DNA and adenoviral vectors expressing genetically engineered Her-2/neu
Kim D-S., Jeong J-G., Lim S-W., Shim K-W., Lee H-J., Oh S-M., Chae J-A., Cha Y-S., Ho S-H., Hong Y., Hahn W., Kim Sujeong, Kim J-M., Yu S., Kang C-Y., Kim Sunyoung

OR-42. Adenoviruses-mediated expression and cell-mediated delivery of interferon-lambda achieve anti-tumor effects *in vivo*
Tagawa M., Li Q., Kawamura K., Okamoto S., Yang S., Fujie H., Numazaki M., Shimada H., Kobayashi H.

OR-43. EpCAM- and EGFR- targeted selective gene therapy for biliary cancers using Z33-fiber modified adenovirus
Abei M., Kawashima R., Fukuda K., Nakamura K., Murata T., Yokoyama K. K., Hamada H., Hyodo I.

OR-44. Single injection of AAV-8 vector expressing mda-7/IL24 into muscle efficiently suppresses tumor growth in lymphoma model mice
Wang N., Fan B., Miyake K., Miyake N., Shimada T.

OR-45. Suicide gene modified central memory T lymphocyte infusion therapy against relapsed leukemia after allogeneic stem cell transplantation. – An amended protocol of TK-DLI gene therapy
Kaneko S., Ohkoshi Y., Nemoto N., Nanmoku T., Fujisawa C., Suzukawa K., Fukushima T., Otsu M., Hasegawa Y., Sumazaki R., Harada Y., Sakamaki H., Tsuchida M., Kato S., Nagasawa T., Bondanza A., Bonini C., Bordignon C., Nakauchi H., Chiba S.

Day 3: July 3, 2010

Oral Session 7 (Abstracts OR46~OR51)
Cancer IV & Basic Technology (E)

10:05-11:05, Special Room
Chairpersons: Teruhiko Yoshida & Hiroyuki Miyoshi

OR-46. Novel therapeutic method using herpes oncolytic virus HF10 to treat advanced cancers
Kasuya H., Sahin T. T., Nomura N., Kanzaki A., Misawa M., Shirota T., Yamada S., Fujii T., Sugimoto H., Shikano T., Nomoto S., Takeda S., Kodera Y., Nakao A., Nishiyama Y.

OR-47. Oncolytic adenovirus with a major late promoter-driven imagine cassette predicts *in vivo* anti-tumor effect
Davydova J., Ono H. A., Gavrikova T., Brown E., Luo X., Curiel D. T., Vickers S. M., Yamamoto M.

OR-48. Oncolytic adenovirus induces autophagic cell death through *microRNA-7*-mediated suppression of EGFR in human cancer cells
Tazawa H., Yano S., Yoshida R., Urata Y., Fujiwara T.

OR-49. Urokinase-targeted cell-cell fusion by oncolytic Sendai virus vector eradicates orthotropic glioblastomas by pronounced synergy with interferon-beta gene
Hasegawa Y., Kinoh H., Iwadate Y., Ueda Y., Inoue M., Hasegawa M., Iuchi T., Saeki N., Yonemitsu Y.

OR-50. Human adenovirus type 40 vector engineering for intestinal mucosa targeting
Yamasaki S., Brown E., Davydova J., Vickers S. M., Yamamoto M.

OR-51. Transvascular transport of recombinant AAV9 vector is a capacity-limited caveolin-1-independent slow process that limits cardiac transduction
Adachi K., Kotchey N. M., Inagaki K., Zahid M., Charan R., Watkins S. C., Parker R., Nakai H.

Oral Session 8 (Abstracts OR52~OR57)
Genetic, Neuromuscular & Other Diseases I (E)

11:05-12:05, Special Room
Chairpersons: Hiroyuki Nunoi & Katsuto Tamai

OR-52. Novel gene therapy for polyglutamine diseases to selectively degrade the pathogenic protein
Nukina N., Bauer P. O., Goswami A., Wong H. K., Okuno M., Kurosawa M., Yamada M., Miyazaki H., Matsumoto G., Kino K., Nagai Y.

OR-53. Parkin protects against parkinsonian insults induced by alpha-synuclein overexpression in a primate model
Yamazaki Y., Inoue K., Endo A., Nihira T., Yasuda T., Miyake K., Shimada T., Mizuno Y., Mochizuki H., Takada M.

OR-54. Positron emission tomography assessment of aromatic L-amino acid decarboxylase gene transfer in Parkinson's disease
Asari S., Fujimoto K., Kato S., Mizukami H., Ikeguchi K., Kawakami T., Urabe M., Kume A., Watanabe E., Sato T., Ozawa K., Nakano I., Muramatsu S.

OR-55. Liver-restricted expression of the canine factor VIII gene facilitates prevention of inhibitor formation in factor VIII-deficient mice
Mimuro J., Ishiwata A., Mizukami H., Kashiwakura Y., Takano K., Ohmori T., Madoiwa S., Ozawa K., Sakata Y.

OR-56. Role of CXCR4 signaling in hematopoietic stem cell repopulation
Lai C. Y., Suzuki S., Okabe M., Yamazaki S., Otsu M., Nakauchi H.

OR-57. Lineage$^-$/PDGFRα^+/c-kit$^-$ bone marrow cells are potential target of gene and cell therapy for genetic blistering skin disease, RDEB
Tamai K., Chino T., Yamazaki T., Iinuma S., Kaneda Y.

Oral Session 9 (Abstracts OR58~OR63)
Genetic, Neuromuscular & Other Diseases II

13:00-14:00, Special Room
Chairpersons: Toshinao Kawai & Makoto Migita

OR-58. Transfection of human hepatocyte growth factor gene ameliorates secondary lymphedema via lymphangiogenesis
Saito Y., Nakagami H., Morishita R., Azuma N., Sasajima T., Kaneda Y.

OR-59. Transdifferentiation of glioblastoma cells into vascular endothelial cells
Soda Y., Marumoto T., Friedmann-Morvinski D., Soda M., Liu F., Michiue H., Kesari S., Yang M., Hoffman R. M., Verma I. M.

OR-60. Successful factor IX expression by IV administration of AAV8 vectors in macaques
Mizukami H., Mimuro J., Ishiwata A., Yagi H., Ohmori T., Madoiwa S., Tsukahara T., Urabe M., Kume A., Sakata Y., Ozawa K.

OR-61. Widespread transduction in the CNS and phenotypic correction of MLD model mice by systemic neonatal injection of serotype 9 AAV vector
Miyake N., Miyake K., Asakawa N., Okabe M., Yamamoto M., Shimada T.

OR-62. Lentiviral vector mediated delivery of full-length dystrophin for gene therapy of muscular dystrophy
Kimura E., Uchino K., Suga T., Koide T., Uchida Y., Maeda Y., Yamashita S., Chamberlain J., Uchino M.

OR-63. rAAV9-microdystrophin-mediated oral immunotolerance induction in canine X-linked muscular dystrophy
Hayashita-Kinoh H., Yugeta N., Okada H., Nitahara-Kasahara Y., Okada T., Takeda S.

Poster Session

Date: July 1, 2010, 18:20-19:30, 4th Gallery

PO- : Excellent Poster

(Abstracts: PO64~PO94) Basic Science

PO-64. Tissue specific RNAi knockdown of DNA replication machinery in *Drosophila* showed requirement of replication factors in endoreplication, gene amplification and development
Kohzaki H., Murakami Y.

PO-65. A flow cytometry-based method for screening of effective small interfering RNA target sequences
Kamio N., Hirai H., Satake S., Tanaka R., Nagao R., Yao H., Hayashi Y., Takeuchi M., Ashihara E., Maekawa T.

PO-66. The validation of siRNAs targeting mammalian target of rapamycin (mTOR) with cross-species activity to induce anti-tumoral effect
Ahn J., Ko A., Jun E. J., Won M., Kim S. W., Lee H.

PO-67. A functional analysis of microRNA aberrantly expressed in leukemic cells
Enomoto Y., Kitaura J., Sonoki T., Nakakuma H., Kitamura T.

PO-68. Identification of "oncogenic microRNA" as new therapeutic targets in malignant lymphoma
Tagawa H., Yamanaka Y., Watanabe A., Inomata M., Sawada K.

PO-69 MicroRNA-222 is a potential target for developing blood-based biomarker assay and treatment of malignant glioma
Ueda R., Qian L., Yaguchi T., Kosaka N., Fujita T., Okada H., Ochiya T., Kawakami Y.

PO-70. Development of new pMXs-based retrovirus vectors expressing shRNA
Enomoto Y., Kitaura J., Nishimura K., Kitamura T.

PO-71. Silencing of a targeted protein in platelets using a lentiviral vector delivering short hairpin RNA sequence
Ohmori T., Kashiwakura Y., Ishiwata A., Madoiwa S., Mimuro J., Sakata Y.

PO-72 c-Cbl regulates interaction of immature hematopoietic cells with the bone marrow microenvironment by Rac GTPase-mediated cytoskeletal signals
Uehara E., Suzuki T., Okabe H., Ueda M., Nagai T., Sanada M., Ogawa S., Ozawa K.

PO-73. Differentiation of human mesenchymal stem cells: The potential mechanism for estrogen-induced preferential osteoblast vs. adipocyte differentiation
Wan Y., ZhaoZ., Gao Z., Mei H., Li Y.

PO-74 Mesenchymal stem cells inhibit Th17 differentiation through indoleamine-2,3-dioxygenase (IDO) and PGE2 production
Tatara R., Ozaki K., Kikuchi Y., Hatanaka K., Oh I., Meguro A., Matsu H., Sato K., Nagai T., Muroi K., Ozawa K.

PO-75. The effect of DMXAA (5,6-di-methylxanthenone-4-acetic acid) on MSC accumulation in tumor sites
Uchibori R., Mizuguchi H., Tsukahara T., Urabe M., Mizukami H., Kume A., Ozawa K.

PO-76. *In vivo* comparison of the stemness ability among $CD34^+$ cells derived from cord blood, bone marrow, peripheral blood using NOD/SCID x IL-2Rγ^{null} (NOG) mice
Horiuchi Y., Otsu M., Kiyokawa N., Fujimoto J., Onodera M.

PO-77. Glycine regulates the cell proliferation and differentiation of tissue stem cells and mouse embryonic stem cells
Nakamura Y., Matsumoto S., Shiraki N., Mochida T., Nakamura K., Takehana K., Kume S., Endo F.

PO-78. Defining hypo-methylated region of stem cell-specific promoters despite general hyper-methylation status in human iPS cells
Nishino K., Toyoda M., Yamazaki-Inoue M., Makino H., Fukawatase Y., Chikazawa E., Takahashi Y., Akutsu H., Umezawa A.

PO-79. Stem cell therapy for diabetes mellitus: Salivary gland derived progenitors
Matsumoto S., Okumura K., Hattori K., Iwai M., Nakamura K., Matsumoto M., Kaji Y., Nagashima H., Endo F.

PO-80. Cell processing of gene transducted T cells by RN/OKT3-stimulation method
Tanaka S., Nukaya I., Kobori H., Mineno J.

PO-81. Lymphocyte expansion from peripheral blood using recombinant human fibronectin fragment (CH-296; RetroNectin)
Yamaki Y., Wakeda T., Kaida M., Hoshi Y., Takahashi N., Yamagata S., Shimada M., Ikarashi Y., Aoki K., Takaue Y., Heike Y.

PO-82. Bio-luminescent imaging and characterization of organ-specific metastasis of human cancer in NOD/SCID mice
Murakami T., Chun N. A., Takahashi M.

PO-83. A third generation oncolytic HSV-1 armed with luciferase demonstrates persistent viral replication in tumors but not in normal organs
Wu Y., Ino Y., Todo T.

PO-84. False biological activities of hyaluronic acids are caused by impurities in the reagents
Sato K., Ozaki K., Matsu H., Tatara R., Meguro A., Oh I., Hatanaka K., Nagai T., Muroi K., Ozawa K.

PO-85. Growth inhibition by transduced hepcidin peptides in human embryonic kidney cells
Sasaki K., Ikuta K., Hosoki T., Ohtake T., Mizukami Y., Torimoto Y., Kohgo Y.

PO-86. Pro-proliferative functions of *Drosophila* small mitochondrial heat shock protein 22 in human cells
Ryu J., Wadhwa R., Gao R., Choi I-K., Morrow G., Rajput K., Kim I., Kaul S. C., Yun C-O., Tanguay R. M.

PO-87. Identification of novel minor histocompatibility antigens using HapMap EBV-LCL panels transduced with restricting HLA cDNA
Akatsuka Y., Yamamura T., Bleakley M., Hikita J., Hamajima T., Nannya Y., Matsubara A., Riddell S. R., Takahashi T., Kuzushima K., Ogawa S.

PO-88 APOA-1 is a novel marker of erythroid cell maturation from hematopoietic stem cell
Inoue T., Sugiyama D., Kurita R., Oikawa T., Kulkeaw K., Kawano H., Miura Y., Okada M., Suehiro Y., Takahashi A., Marumoto T., Inoue H., Komatsu N., Tani K.

PO-89. Array-based genomic resequencing of acute myeloid leukemia
Yamashita Y., Mano H.

PO-90. Serum anti-BPAG1 auto-antibody is a novel marker for human melanoma
Shimbo T., Tanemura A., Yamazaki T., Tamai K., Katayama I., Kaneda Y.

PO-91. Oxysterol binding protein like10 (OSBPL10) is associated with dyslipidemia
Nakagami H., Koriyama H., Katsuya T., Sugimoto K., Morishita R., Rakugi H., Kaneda Y.

PO-92. A quick and reliable method for titeration of adenoviral vectors not using 293 cells
Kanegae Y., Pei Z., Terashima M., Kondo S., Saito I.

PO-93 Development of an enzyme-linked immunosorbent assay method for rapid screening of anti-AAV-2 antibodies
Ito T., Yamamoto S., Hayashi T., Kodera M., Mizukami H., Ozawa K., Nakano I., Muramatsu S.

PO-94. Prevalence of neutralizing antibodies against adeno-associated virus 2, 8 and 9 in non-human primate colonies using sensitive assay system
Yagi H., Mizukami H., Tsukahara T., Urabe M., Hamada H., Kume A., Yoshikawa H., Ozawa K.

(Abstracts: PO95~PO110) Vector

PO-95. Enhancement of adenoviral gene delivery and non-soluble drug delivery using proteoliposome containing apolipoproteins A-I
Cho K-H.

PO-96 Engineering DRG-targeted helper-dependent adenoviruses for selective gene delivery
Terashima T., Oka K., Kritz A. B., Kojima H., Yamakawa I., Kawai H., Sanada M., Baker A. H., Chan L.

PO-97 An adeno-associated virus vector efficiently and specifically transduce mouse skeletal muscle
Murakami I., Takeuchi T., Fujii T., Aoki D., Kanda T.

PO-98. TROP2-targeted selective gene therapy for non-small cell lung cancer (NSCLC)
Yamaguchi M., Hirai S., Hamada H.

PO-99. Evaluation of SSX4 gene promoter for tumor-specific suicide gene therapy
Yawata T., Ishida E., Shimizu K.

PO-100. Gene transduction into human hepatocytes transplanted into a chimeric mouse by using self-complementary recombinant AAV8 vectors
Ishida Y., Urabe M., Yamasaki C., Yanagi A., Yoshizane Y., Ozawa K., Tateno C.

PO-101. Editing *cis* elements required for AAV integration to enhance AAVS1-targeted integration
Urabe M., Miyata S., Onishi A., Tsukahara T., Mizukami H., Kume A., Ozawa K.

PO-102. Prevention of teratomagenesis in iPSC-based therapies with Nanog promoter driving HSV-TK / GCV mediated "pluripotent cell-suicide" system
Okimoto Y., Kaneko S., Yamaguchi T., Yamazaki S., Goto H., Inoue Y., Nakauchi H.

PO-103. "TET-OFF" lentiviral vectors drive high-level transgene expression in marmoset brains
Watakabe A., Takaji M., Nakagami Y., Hioki H., Kaneko T., Kato S., Kobayashi K., Kawashima T., Okuno H., Bito H., Kitamura Y., Yamamori T.

PO-104. Expression of halorhodopsin for suppression of neuronal transmission in the central nervous system of the mouse and monkey with viral vectors
Kinoshita M., Kaneda K., Kasahara H., Hatanaka N., Matsui R., Chiken S., Isa K., Mizukami H., Ozawa K., Watanabe D., Nambu A., Isa T.

PO-105. Tracking of specific integrant clones in dogs treated with foamy virus vectors
Ohmine K., Li Y., Bauer Jr T. R., Hickstein D. D., Ozawa K., Russell D. W.

PO-106. An erasable (hit-and-run) vector based on RNA replicon viruses may be useful in cell-programing/ reprograming without chromosomal damages
Ban H., Fusaki N., Iida A., Ueda Y., Inoue M., Hasegawa M.

PO-107. A novel method for gene transfer to mammalian cells by using Sendai virus-based minigenome system
You J., Inoue M., Tabata T., Shu T., Hasegawa M.

PO-108. Highly efficient gene transfer system using a laminin–DNA–apatite composite layer
Tsurushima H., Oyane A., Ito A., Matsumura A.

PO-109. Development of electromotor-driven system for hydrodynamic gene delivery
Suda T., Imai T., Kamimura K., Oda M., Kanefuji T., Zhang G., Liu D., Yokoo T., Tamura Y., Igarashi M., Kawai H., Aoyagi Y.

PO-110. Development of high-performance HVJ-E for cancer therapy
Saga K., Tamai K., Yamazaki T., Kaneda Y.

(Abstracts: PO111~PO138) Cancer

PO-111. *Ex vivo* expansion of primary T-lymphocytes expressing a chimeric antigen receptor targeting CD19 with antigen stimulation
Tsukahara T., Sakurai C., Ohmine K., Uchibori R., Urabe M., Mizukami H., Kume A., Riviere I., Sadelain M., Brentjens R. J., Ozawa K.

PO-112. Enhanced human T cell activity by silencing B7-H1 and B7-DC with siRNA
Iwamura K., Kato T., Miyahara Y., Naota H., Mineno J., Okamoto S., Ikeda H., Shiku H.

PO-113. A novel selective culture method of natural killer cells stimulated with alpha-galactosylceramide and Retronectin leads to the gene-transduction to NK cells
Wakeda T., Yamaki Y., Kaida M., Hoshi Y., Takahashi N., Yamagata S., Shimada M., Takaue Y., Heike Y.

PO-114. Antigen mRNA-transfected, fibroblasts loaded with NKT cell ligand as adjuvant vector cells confer antitumor immunity
Fujii S., Asakura M., Shimizu K.

PO-115. Establishment of aggressive MLL/AF4 induced lymphoma model mice through up-regulation of HoxA9 and S100A6 expression
Tamai H., Miyake K., Takatori M., Miyake N., Yamaguchi H., Dan K., Shimada T., Inokuchi K.

PO-116. Transactivation of the dopamine receptor 3 gene by a single provirus integration results in development of B cell lymphoma in transgenic mice generated from retrovirally transduced embryonic stem cells
Onodera M., Hirata Y., Hamanaka S.

PO-117. A combination of a DNA-chimera siRNA against PLK-1 and zoledronic acid suppresses the growth of malignant mesothelioma cells *in vitro*
Kawata E., Ashihara E., Hirai H., Maekawa T.

PO-118. Involvement of intercellular junctions mediated by E-cadherin in the resistance of ovarian mucinous carcinoma to anticancer drugs
Saga Y., Mizukami H., Takei Y., Urabe M., Kume A., Suzuki M., Ozawa K.

PO-119. Galanin receptor type 1 suppresses proliferation in head and neck cancer cells
Kanazawa T., Matsuzawa S. Hara M. Hasegawa M., Kodama K., Shinnabe A., Kanazawa H., Iino Y.

PO-120. RCAN1 interacts with tumor suppressors and plays an important role in the survival of leukemia cells
Fujiwara S., Nagai T., Kikuchi S., Uesawa M., Sakurai C., Ohmine K., Kikuchi J., Furukawa Y., Ozawa K.

PO-121. Gene therapy for malignant mesothelioma using 'BioKnife', an urokinase-targeted oncolytic Sendai virus
Morodomi Y., Yano T., Kinoh H., Yoshida T., Ito K., Shikada Y., Maruyama R., Yoshida K., Ueda Y., Inoue M., Hasegawa M., Maehara Y., Yonemitsu Y.

PO-122. Combination of adenovirally delivered tumor necrosis factor-alpha with nafamostat mesilate is effective for pancreatic cancer by inhibiting NF-κB activation
Furukawa K., Iida T., Fujiwara Y., Shiba H., Uwagawa T., Misawa T., Shimada Y., Kobayashi H., Ohashi T., Yanaga K.

PO-123. Administration route-dependent induction of antitumor immunity by interferon-alpha gene transfer
Udagawa T., Narumi K., Kondoh A., Goto N., Yoshida T., Aoki K.

PO-124. E1B-55K-deleted oncolytic adenovirus CRAd-NTR(PS1217H6) caused mitotic catastrophe in colon cancer cells
Chen M-J., Searle P. F., Chen Y-J.

PO-125 Effect of decorin on overcoming the extracellular matrix barrier for oncolytic virotherapy
Choi I-K., Le Y-S., Yoo J. Y., Yoon A-R., Choi H. J., Seidler D. G., Yun C-O.

PO-126. Adenovirus-mediated decorin expression induces cell death through activation of p53 and mitochondrial apoptosis
Yoon A-R., Yun C-O.

PO-127. Combination therapy of conditionally replicating relaxin-expressing adenovirus with radiation effectively inhibits tumor growth
Kim M., Kim J., Yoo J-Y., Kwon O-J., Yun C-O.

PO-128. Tumor suppression by apoptotic and anti-angiogenic effects of mortalin targeting adeno-oncolytic virus
Ryu J., Yoo J. Y., Gao R., Yaguchi T., Kaul S. C., Wadhwa R., Yun C-O.

PO-129. Oncolytic adenovirus co-expressing IL-12 and IL-18 improves tumor-specific immunity via differentiation of T cells co-expressing IL-12Rβ_2 and IL-18Rα
Choi I-K., Lee J-S., Zhang S-N., Yun C-O.

PO-130. Combined gene therapy using adenovirus expressing interleukin-12, granulocyte-macrophage colony-stimulating factor, and thymidine kinase with prodrug ganciclovir
Kim J-S., Choi K-J., Yun C-O.

PO-131. Optimizing dendritic cell vaccination by combination with oncolytic adenovirus coexpressing interleukin-12 and granulocyte-macrophage colony stimulating factor
Zhang S-N., Huang J-H., Yoo J. Y., Choi K-J., Yun C-O.

PO-132. Oncolytic virus therapy for bladder cancer using a third-generation HSV-1 armed with interleukin 12
Hou G., Fukuhara H., Tsurumaki Y., Homma Y., Ino Y., Todo T.

PO-133 A phase I/II study of adenovirus-mediated interleukin-12 gene therapy for hormone refractory prostate cancer; An interim report
Sasaki K., Nasu Y., Kaku H., Watanabe M., Edamura K., Saika T., Kumon H., Brenner M. K.

PO-134. QOL score evaluation following IL-12 gene therapy for prostate cancer- An initial report of 2 cases
Onitake M., Kobayashi A., Ohta N., Munemiya M., Abarzua F., Nasu Y.

PO-135. Gene therapy clinics online: The direct-to-consumer business of gene therapy
Endo Y.

PO-136 Induction of long-term anti-tumoral effects via recombinant adeno-associated virus and its validation using micro-PET
Kim J. Y., Kim J. H., Lee W. I., Moon D. H., Lee H.

PO-137. Tumoricidal bystander effect in the suicide gene therapy using mesenchymal stem cells does not injure normal brain tissues
Namba H., Amano S., Koizumi S.

PO-138. Control of tumor-targeting *Salmonella* dissemination by host B-cell
Lee C-H., Wu C-L., Hsieh J-L., Chen S-H., Shiau A-L.

(Abstracts: PO139~PO160) Genetic and Other Diseases

PO-139. Choice of small-sized promoter for AAV-mediated factor IX expression in skeletal muscle
Kume A., Yagi H., Mizukami H., Urabe M., Tsukahara T., Ishiwata A., Mimuro J., Madoiwa S., Ohmori T., Sakata Y., Ozawa K.

PO-140. Neonatal gene therapy for the mouse model of Krabbe disease
Kobayashi H., Ariga M., Shimada Y., Izuka S., Yokoi T., Iwamoto T., Fukuda T., Ida H., Eto Y., Ohashi T.

PO-141. Long term gene expression in neonatal lentiviral gene therapy of MPS VII mice
Ariga M., Kobayashi H., Kaneshiro E., Shimizu H., Iizuka S., Ohashi T., Eto Y., Ida H.

PO-142. Chimerism of bone marrow reduces the glycolipid storage in Fabry disease mice
Yokoi T., Kobayashi H., Fukuda T., Eto Y., Ida H., Ishige N., Kitagawa T., Otsu M., Nakauchi H., Ohashi T.

PO-143. AAV vector-mediated expression of interleukin-10 suppresses proteinuria in Zucker fatty rats through the improvement of glomerular hypertrophy and podocyte injury
Ogura M., Urabe M., Onishi A., Ito T., Tsukahara T., Mizukami H., Kume A., Kusano E., Ozawa K.

PO-144. Bone marrow mononuclear cell transplantation accelerates functional recovery after stroke in murine model
Hirose H., Kasahara Y., Myojin K., Nakano A., Saino O., Nakagomi T., Matsuyama T., Taguchi A.

PO-145. Critical role of hyaluronan derived from vascular smooth muscle cells in neointimal formation after vascular Injury
Kashima Y.

PO-146. Treatment of ischemic digits caused by connective tissue disease with local implantation of autologous bone marrow or peripheral blood mononuclear cells
Kamata Y., Iwamoto M., Muroi K., Minota S.

PO-147 **5' Tri-phosphate siRNA ; Attenuation of coxsackieviral myocarditis through gene silencing and RIG-I dependent interferon activation**
Ahn J., Ko A., Jun E. J., Won M., Kim Y. K., Lee H.

PO-148. Long-term engraftment and survival of allogeneic transplanted multipotent mesenchymal stromal cells in Duchenne muscular dystrophy dog without immunosuppressant
Nitahara-Kasahara Y., Hayashita-Kinoh H., Okada H., Shin J-H., Nishiyama A., Ohshima-Hosoyama S., Nakamura A., Okada T., Takeda S.

PO-149. Feasibility study of adeno-associated virus (AAV) vector-mediated gene therapy for muscular dystrophy: Efficacy and safty of AAV serotype 2, 8, and in normal primate
Ishii A., Okada H., Hayashita Kinoh H., Shin J-H., Katakai Y., Ono F., Okada T., Takeda S.

PO-150. Hippocampal expression of GAD inhibits epileptogenesis in EL mice
Shimazaki K., Oguro K., Yokota H., Watanabe E., Kato K., Murashima Y., Kasahara Y., Okada T.

PO-151. AAV-OXTR vectors developed for the analysis of maternal behavior under the control of OXT/OXTR system
Osada D., Sato K., Aoyagi Y., Mizukami H., Ozawa K., Nishimori K.

PO-152. Parkin gene therapy in a long-term MPTP-minipump mouse model of Parkinson's disease; A second report
Yasuda T., Mochizuki H.

PO-153. Therapeutic vaccine in SIVmac239-infected rhesus macaque
Shimada M., Okuda K.

PO-154 **AAV1-mediated IL-10 gene-delivery improves glucose and energy metabolism in high-fat diet-induced obese mice**
Nakata M., Yamamoto S., Okada T., Ozawa K., Yada T.

PO-155. Altered effector $CD4^+$ T cell function in IL-$21R^{-/-}$ $CD4^+$ T cell-mediated graft-versus-host-disease
Oh I., Ozaki K., Meguro A., Kadowaki M., Matsu H., Hatanaka K., Tatara R., Sato K., Iwakura Y., Nakae S., Sudo K., Teshima T., Leonard W. J., Ozawa K.

PO-156. Blocking of IL-21 signal attenuates graft-versus-host disease but not graft-versus-leukemia effect in a mouse model
Meguro A., Ozaki K., Oh I., Matsu H., Hatanaka K., Tatara R., Leonard W. J., Ozawa K.

PO-157. STAT3 activation is required for acute graft-versus host disease
Matsu H., Ozaki K., Meguro A., Hatanaka K., Tatara R., Oh I., Sato K., Mori M., Muroi K., Nagai T., Ozawa K.

PO-158. Transplanted allogeneic fetal membrane-derived mesenchymal stem cells contribute to renal repair in glomerulonephritis
Isaka Y., Tsuda H., Yamahara K., Ikeda T., Takabatake Y., Rakugi H.

PO-159. Mesenchymal stem cells stably transduced with a dominant negative inhibitor of MCP-1 greatly attenuated bleomycin-induced lung damage
Saito S., Nakayama T., Hashimoto N., Miyata Y., Egashira K., Yamamoto K., Hasegawa Y., Naoe T.

PO-160. Treatment with mesenchymal stem cells against steroid-resistant acute graft-versus-host disease after hematopoietic stem cell transplantation
Mori M., Muroi K., Sato K., Sasazaki M., Matsuyama T., Ozaki K., Ozawa K.

Corporate Seminars

▸Day I

Corporate Seminar-I (Takara Bio Inc.)

Thursday, JULY 1, 2010
12:05-12:50, Special Room

Chair: Kazuto Takesako (Gene Medicine Business Unit, Takara Bio Inc.)

Introduction of tools, technologies and applications for acceleration of your research and development of gene therapy
Junichi Mineno (Center for Cell and Gene Therapy, Takara Bio Inc.)

Corporate Seminar-II (DNAVEC Corporation)

Thursday, JULY 1, 2010
12:05-12:50, 1st Room

Chair: Yutaka Hanazono (Center for Molecular Medicine, Jichi University)

1. **Efficient generation of iPS cells free from chromosomal damages and transgenes using an RNA replicon system, Sendai virus vector**
   Noemi Fusaki (PRESTO Research Leader, Unit of Cell Therapy & Regenerative Medicine, DNAVEC Corporation)

2. **Development of DVC1-0101, a recombinant Sendai virus expressing human FGF-2, as a RNA drug to treat peripheral arterial disease**
   Yoshikazu Yonemitsu (R&D Laboratory for Innovative Biotherapeutics, Graduate School of Pharmaceutical Sciences, Kyushu University)

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▸Day II

Corporate Seminar-III (Genzyme Japan K. K.) English presentation

Friday, JULY 2, 2010
12:10-12:55, Special Room

Chair: Tatsutoshi Nakahata (Center for iPS Cell Research and Application (CiRA), Institute for Integrated Cell-Material Sciences, Kyoto University)

Developing a gene therapy for the treatment of neovascular age-related macular degeneration
Samuel Wadsworth (Department of Molecular Biology, Genzyme Corporation, Framingham, MA, USA)

Corporate Seminar-IV (Otsuka Pharmaceutical Factory Inc.)

Friday, JULY 2, 2010
12:10-12:55, 1st Room

Chair: Masafumi Takahashi (Jichi Medical University)

Bio-imaging animals-Preset and future application
Eiji Kobayashi (Center for Development of Advanced Medical Technology, Jichi Medical University)

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▸Day III

Corporate Seminar-V (Nihon Medi-Physics Co., Ltd.)

Saturday, JULY 3, 2010
12:10-12:55, Special Room

Chair: Hideharu Sugimoto (Jichi Medical University)

Application of 18F-FDG PET for cancer management
Noboru Oriuchi (Gunma University Graduate School of Medicine)

Corporate Seminar-VI (Nippon Shinyaku Co., Ltd.)

Saturday, JULY 3, 2010
12:10-12:55, 1st Room

Chair: Atsushi Natsume (Center for Genetic and Regenerative Medicine, Nagoya University School of Medicine)

Clinical implications of epigenetic treatment in human malignancies
Yutaka Kondo (Aichi Cancer Center Research Institute)

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