THE 15th ANNUAL MEETING 2009

JAPAN SOCIETY OF GENE THERAPY

PROGRAM AND ABSTRACTS

Date
July 9-11, 2009

Venue
Osaka University Convention Center

1-1, Yamada-oka, Suita-city 565-0871,
Osaka

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

PROGRAM

Presidential Lecture

Date: July 9, 2009
13:40-14:40, Hall
Chairperson: Shigetaka Asano

Yasufumi Kaneda *(Division of Gene Therapy Science, Graduate School of Medicine, Osaka University)*
DEVELOPMENT OF ANTI-CANCER STRATEGIES USING HVJ ENVELOPE

Special Lecture I

Date: July 9, 2009
16:00-17:00, Hall
Chairperson: Kenzaburo Tani

Shiroh Futaki *(Institute for Chemical Research, Kyoto University)*
CHEMICAL AND BIOLOGICAL FACTORS THAT CONTRIBUTE TO THE INTERNALIZATION OF ARGININE-RICH CELL-PENETRATING PEPTIDES

Special Lecture II

Date: July 10, 2009
9:00-10:00, Hall
Chairperson: Yasufumi Kaneda

Shizuo Akira *(WPI Immunology Frontier Research Center, Osaka University)*
NEGATIVE REGULATION OF TOLL-LIKE RECEPTOR MEDIATED IMMUNE RESPONSES

Special Lecture III

Date: July 10, 2009
13:00-14:00, Hall
Chairperson: Kazunori Kataoka

Ernst Wagner *(Ludwigs-Maximilians-University, Germany)*
DYNAMIC POLYMERS FOR THERAPEUTIC DNA AND RNA DELIVERY

Special Lecture IV

Date: July 10, 2009
16:00-17:00, Hall
Chairperson: Ryuichi Morishita

Issei Komuro*(Chiba University Graduate School of Medicine, Osaka University Graduate School of Medicine)*
MOLECULAR MECHANISMS AND NOVEL TREATMENTS FOR HEART FAILURE

Scientific Symposium

"Cancer Immunology and Immunotherapy"

Date: July 10, 2009
10:00-11:40, Hall
Chairpersons: Yutaka Kawakami, Hiroshi Shiku

Hiroshi Shiku *(Mie University Graduate School of Medicine)*
IMMUNO-GENE THERAPY BY T CELLS TRANSDUCED WITH CANCER-SPECIFIC TCR GENES

Yutaka Kawakami *(Keio University School of Medicine)*
IMPROVEMENT OF IMMUNOTHERAPY BY MODULATION OF IMMUNE-EVASIVE TUMOR MICROENVIRONMENT

Haruo Sugiyama *(Osaka University Graduate School of Medicine)*
WT1 PEPTIDE-BASED CANCER IMMUNOTHERAPY

Yasutomo Nasu *(Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences)*
IN SITU **GENE THERAPY FOR PROSTATE CANCER - ITS LOCAL AND SYSTEMIC EFFECT -**

JSGDD Symposium

"Recent Progress in Japanese Society of Gene Design and Delivery"

(Japanese)

Date: July 10, 2009

14:00-16:00, Hall

Chairpersons: Mariko Harada-Shiba, Tetsuji Yamaoka

S-1. POLYSACCHARIDE NANOGEL ENGINEERING FOR DDS

Kazunari Akiyoshi *(Institute of Biomaterials and Bioengineering, Medical and Dental University)*

S-2. INTRACELLULAR SIGNAL RESPONSIVE GENE REGULATION SYSTEM FOR DISEASE CELL SPECIFIC GENE THERAPY AND IMAGING

Yoshiki Katayama *(Department of Applied Chemistry, Faculty of Engineering, Kyushu University)*

S-3. INTELLIGENT FUNCTIONS FOR NEW APPROACH OF THERAPEUTIC OLIGONUCLEOTIDES

Shigeki Sasaki *(Graduate School of Pharmaceutical Sciences, Kyushu University)*

S-4. DES IN THE FUTURE: THE PRO-HEALING STRATEGY BY FORMULATION OF PITAVASTATIN-INCORPORATED NANOPARTICLE ELUTING STENT

Kensuke Egashira *(Graduate School of Medical Science, Kyushu University)*

International Symposium of Gene Therapy

"Cutting Edge of Cancer Gene Therapy"

Date: July 11, 2009

9:45-11:50, Hall

Chairpersons: Noriyuki Kasahara, Chae-Ok Yun

Chae-Ok Yun *(Yonsei University College of Medicine, Korea)*

DWP418, A TARGETED CANCER GENE THERAPY WITH AN EMERGING ROLE IN TUMOR TISSUE PENETRATION TARGETED CANCER GENE THERAPY WITH A NOVEL ACTIVITY OF TUMOR TISSUE PENETRNATION

John Y. Dong *(Medical University of South Carolina, GenPhar, Inc. USA)*

A NOVEL ONCOLYTIC VECTOR THERAPY APPROACH THAT COMBINES PROSTATE-SPECIFIC VECTOR REPLICATION WITH VACCINE ANTIGEN PRESENTATION

Noriyuki Kasahara *(University of California, Los Angeles, USA)*

RCR VECTORS: ENHANCING TRANSDUCTION EFFICIENCY AND TUMOR SELECTIVITY

Karin M. L. Gaensler *(University of California, San Francisco, USA)*

USING GENETIC ENGINEERING APPROACHES IN TRANSPLANTATION AND TOLERANCE INDUCTION

Jean-Marc Limacher *(Transgene S.A, France)*

BIOMARKERS ASSOCIATED WITH CLINICAL OUTCOME IN ADVANCED NON SMALL CELL LUNG CANCER PATIENTS TREATED WITH THE TARGETED IMMUNOTHERAPY PRODUCT TG4010

Plenary Session 1
(Abstracts 1-3)

Date: July 9, 2009
9:00-9:45, Hall
Chairperson: Keiya Ozawa

1. **MODIFICATION OF NOVEL ANGIOGENIC PEPTIDE, AG-30, TOWARD CLINICAL APPLICATION**
   Nakagami H., Nishikawa T., Tamai K., Kaneda Y.

2. **NEONATAL GENE THERAPY USING LENTIVIRAL VECTOR SYSTEM FOR MURINE POMPE DISEASE: LONG TERM EFFICACY**
   Obikawa-Kyosen S., Iizuka S., Kimura T., Kobayashi H., Fukuda T., Ida H., Eto Y., Ohashi T.

3. **EFFICIENT CORRECTION OF CARDIAC ABNORMALITIES IN FABRY MICE BY AAV TYPE8 MEDIATED SYSTEMIC GENE TRANSFER**
   Miyake K., Miyake N., Yamamoto M., Kamiya M., Asai K., Shimada T.

Plenary Session 2
(Abstracts 4-6)

Date: July 11, 2009
9:00-9:45, Hall
Chairperson: Takashi Shimada

4. **SILENCING ENDOGENOUS TCR α/β WITH siRNAS AND PROTECTING TRANSFERRED MAGE-A4-SPECIFIC TCR α/β GENES FROM siRNAS BY CODON MODIFICATION ENHANCE EXPRESSION OF TRANSFERRED TCR α/β**
   Mineno J., Okamoto S., Ikeda H., Shiku H., Kato I.

5. **THE DEVELOPMENT OF A POTENT TUMOR SELECTIVE ADENOVIRAL VECTOR TO TARGET BREAST CANCER METASTASIS**
   Huyn S., Sato M., Wu L.,

6. THE REPORT OF CLINICAL TRIAL USING HF10 WITH NEW DATA

Kasuya H., Nomura N., Kanazumi N., Nomoto S., Takeda S., Sugimoto H., Shikano T., Shirota T., Misawa M., Imai T., Nakao A.

Plenary Session 3
(Abstracts 7-9)

Date: July 11, 2009
14:20-15:05, Hall
Chairperson: Jun Yoshida

7. PHASE I TRIAL OF AAV VECTOR-MEDIATED GENE DELIVERY OF AROMATIC L-AMINO ACID DECARBOXYLASE FOR PARKINSON'S DISEASE

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

8. A PHASE I/II STUDY OF ADENOVIRUS-MEDIATED INTERLEUKIN-12 GENE THERAPY FOR HORMONE REFRACTORY PROSTATE CANCER; A REPORT OF INITIAL 6 CASES.

Sasaki K., Nasu Y., Kaku H., Watanabe M., Edamura K., Saika T., Kumon H., Brenner M. K.

9. THREE-YEAR CLINICAL FOLLOW-UP PATIENTS TREATED WITH SUICIDE GENE MODIFIED DONOR LYMPHOCYTE INFUSION THERAPY IN JAPAN

Kaneko S., Ohkoshi Y., Otsu M., Nemoto N., Nanmoku T., Suzukawa K., Hasegawa Y., Kojima H., Fukushima T., Sumazaki R., Onodera M., Harada Y., Sakamaki H., Tsuchida M., Kato S., Bonini C., Bordignon C., Chiba S., Nakauchi H., Nagasawa T.

Day 1: July 9, 2009

Oral Presentation 1 (Abstracts 10-18)

VASCULAR DISEASE

10:00-11:48, Room 1

Chairpersons: Hironori Nakagami, Yoshikazu Yonemitsu

10. DEVELOPMENT OF A NOVEL RIBBON-TYPE NF-kB DECOYOLIGODEOXYNUCLEOTIDES TO TREAT RENAL DISEASES

Tomita N., Osako M. K., Kunugiza Y., Morishita R.

11. HEPATOCYTE GROWTH FACTOR ATTENUATES TGF-β1 ANGIOTENSIN II CROSSTALK BY DOWN REGULATION OF ANGIOTENSIN II TYPE 1 RECEPTOR THROUGH PTEN UPREGULATION

Kusunoki H., Taniyama Y., Iekushi K., Azuma J., Sanada F., Dosaka N., Yokoi T., Koibuchi N., Kyutoku M., Rakugi H., Morishita R.

12. ADENO-ASSOCIATED VECTOR (TYPE 8) MEDIATED EXPRESSION OF Flt-1 EFFICIENTLY INHIBITS NEOVASCULARIZATION IN A MURINE CHOROIDAL NEOVASCULARIZATION MODEL

Igarashi T., Miyake K., Masuda I., Shimada T., Takahashi H.

13. ENDOTHELIAL FHL-2 SUPPRESSES VEGF-INDUCED PI3K/AKT PATHWAY THROUGH INTERACTION WITH SPHINGOSINE KINASE-1.

Hayashi H., Nakagami H., Takami Y., Koriyama H., Mori M., Tamai K., Morishita R., Kaneda Y.

14. NEGATIVE ACTION OF HGF/c-Met SYSTEM ON ANGIOTENSIN II SIGNALING VIA LIGAND-DEPENDENT EGF RECEPTOR DEGRADATION MECHANISM IN VSMC

Sanada F., Taniyama Y., Iekushi K., Azuma J., Dosaka N., Shimizu K., Kusunoki H., Koibuchi N., Morishita R.

15. ANALYSIS ON SIGNAL PATHWAY OF AN ANTIMICROBIAL AND ANIGOGENIC PEPTIDE, AG-30, STIMULATED ENDOTHELIAL CELLS

Nishikawa T., Nakagami H., Morishita R., Maeda A., Tamai K., Kaneda Y.

16. A STATIN PROTECTS ABETA-INDUCED MEMORY IMPAIRMENT IN MICE

Kurinami H., Sato N., Shinohara M., Takeuchi D., Takeda S., Shimamura M., Morishita R.

17. KLOTHO SUPPRESSES TNF-α-INDUCED EXPRESSION OF ADHESION MOLECULES IN THE ENDOTHELIUM AND ATTENUATES NF-κB ACTIVATION

Maekawa Y., Ishikawa K., Yasuda O., Oguro R., Hanasaki H., Kida I., Takemura Y., Ohishi M., Katsuya T., Rakugi H.

18. CALCIUM CHANNEL BLOCKER PREVENTS MONOCYTE ADHESION TO ENDOTHELIAL CELLS VIA MIP-1β AND OXIDATIVE STRESS SYSTEM

Iwamoto Y., Ohishi M., Tatara Y., Yamamoto K., Hayashi N., Shiota A., Takagi T., Takeda M., Kato N., Katsuya T., Rakugi H.

Oral Presentation 2 (Abstracts 19-27)

VIRAL VECTOR-1

10:00-11:48, Room 2

Chairpersons: Tomoki Todo, Kohnosuke Mitani

19. HOMOLOGOUS RECOMBINATION AT THE *HPRT* LOCUS IN HUMAN B-LYMPHOBLASTOID CELL LINES USING ADENO-ASSOCIATED VIRUS VECTOR

Aizawa E., Paiboonsukwong K., Mitani K.

20. GENE REPAIR OF MUTANT FANCONI ANEMIA GENE IN HUMAN B-LYMPHOBLASTOID CELLS USING ADENO-ASSOCIATED VIRUS VECTOR

Paiboonsukwong K., Yamashita T., Mitani K.

21. A SENSITIVE ASSAY SYSTEM FOR NEUTRALIZING ANTIBODY AGAINST AAV SEROTYPES, INCLUDING 8 AND 9

Mizukami H., Yagi H., Urabe M., Kume A., Ozawa K.

22. IDENTIFICATION OF NOVEL FIBER-KNOB MOTIF FOR PANCREATIC CANCERS FROM ADENOVIRAL LIBRARY WITH RANDOM HI-LOOP PEPTIDE INSERTIONS

Miura Y., Brown E., Davydova J., Aoki K., Yamamoto M.

23. CD146-TARGETED SELECTIVE GENE TRANSFER INTO MELANOMA

Hirai S., Sakuragi N., Yamaguchi M., Nakamura K., Kato K., Hamada H.

24. DEVELOPMENT OF NEW ADENOVIRAL GENE THERAPY TARGETING HEMATOLOGICAL MALIGNANCIES

Yokota Y., Yamamoto M., Nakayama M., Inoue H., Takayama K., Fujiwara T., Mizuguchi H., Curiel D. T., Tani K.

25. ONCOLYTIC VIRUS THERAPY FOR PANCREATIC CANCER USING AN ADENOVIRUS LIBRARY DISPLAYING RANDOM PEPTIDES ON THE FIBER KNOB

Aoki K., Nishimoto T., Yoshida K., Ohnami S., Kurisu K., Yoshida T.

26. THE USE OF THIRD GENERATION ONCOLYTIC HSV-1 EXPRESSING LUCIFERASE FOR DEMONSTRATION OF REAL-TIME BIODISTRIBUTION

Wu Y., Ino Y., Todo T.

27. FUNCTIONAL COMPARISON AS A TARGETING LIGAND: A SINGLE CHAIN OF ANTIBODY VERSUS EGF FOR EGF RECEPTOR-MEDIATED HSV INFECTION

Nakano K.

Oral Presentation 3 (Abstracts 28-36)

ONCOLYTIC VECTOR-1

10:00-11:48, Room 3

Chairpersons: Akinobu Gotoh, Masato Yamamoto

28. ONCOLYTIC VIROTHERAPY FOR MALIGNANT MELANOMA WITH HERPES SIMPLEX VIRUS TYPE 1 MUTANT HF10

Watanabe D., Goshima F., Kuhara T., Ishida N., Tamada Y., Matsumoto Y., Nishiyama Y.

29. GROWTH INHIBITION OF BLADDER CANCER USING ONCOLYTIC HERPES SIMPLEX VIRUS ARMED WITH INTERLEUKIN 12

Hou G., Fukuhara H., Tsurumaki Y., Honma Y., Ino Y., Todo T.

30. THIRD GENERATION ONCOLYTIC HSV-1 (G47Δ) IS HIGHLY EFFICACIOUS FOR MALIGNANT PLEURAL MESOTHELIOMA

Takahashi M., Ino Y., Todo T.

31. INFECTIVITY-ENHANCED ONCOLYTIC ADENOVIRAL VECTORS EXPRESSING SYNGENEIC IFNα SHOWS STRONG ANTI-TUMOR EFFECT FOR PANCREATIC CANCER.

Davydova J., Brown E., Vickers S., Yamamoto M.

32. REPLICATION-COMPETENT RETROVIRUS VECTOR -MEDIATED IMMUNOTHERAPY IN A SYNGENEIC COLORECTAL CANCER MODEL

Hiraoka K., Kimura T., Logg C., Ohno I., Haga K., Kasahara N.

33. "BIOKNIFE-β" (UROKINASE-TARGETED ONCOLYTIC SENDAI VIRUS ARMED WITH IFN-β) COMBINED WITH 5-FLUOROURACIL INDUCE COMPLETE TUMOR REGRESSION FOR SQUAMOUS CELL CARCINOMA

Kinoh H., Ueda Y., Inoue M., Hasegawa M., Yonemitsu Y.

34. INTRAVENOUS INJECTION OF THE CARRIER-CELL BASED ONCOLYTIC ADENOVIRUS SUPPRESSES THE GROWTH OF MULTIPLE LUNG TUMORS IN MOUSE SQUAMOUS CELL CARCINOMA MODEL

Shirakawa T., Hamada K., Kitajima S., Mitsuoka C., Saito N., Matsuoka T., Adhim Z., Terao S., Gotoh A., Nibu K., Fujisawa M., Lee K. M.

35. TELOMERASE-SPECIFIC ONCOLYTIC ADENOVIRUS ARMED WITH WILD-TYPE p53 GENE (CGCT-04) EFFICIENTLY INDUCES APOPTOSIS IN HUMAN CANCER CELLS

Yamasaki Y., Onimatsu H., Hashimoto Y., Kojima T., Tazawa H., Kagawa S., Mizuguchi H., Urata Y., Tanaka N., Fujiwara T.

36. PRECLINICAL STUDY OF TELOMERASE-SELECTIVE ONCOLYTIC ADENOVIRUS (OBP-301) IN COMBINATION WITH CHEMOTHERAPEUTIC AGENT AND RADIATION

Tazawa H., Hashimoto Y., Kuroda S., Urata Y., Fujiwara T.

Oral Presentation 4 (Abstracts 37-41)

SiRNA

14:45-15:45, Room 1

Chairpersons: Ken-ichiro Kosai, Koichi Miyake

37. A NOVEL STRATEGY OF THE GENE THERAPY FOR PAD USING SMALL RNA INTERFERENCE OF COLD SHOCK DOMAIN PROTEIN A

Saito Y., Nakagami H., Morishita R., Azuma N., Sasajima T., Kaneda Y.

38. CONBINATION THERAPY WITH siRNA VECTORS AGAINST VEGF-C AND VEGF-A SUPPRESSES LYMPH NODE AND LUNG METASTASIS IN A MOUSE CANCER MODEL

Shibata M., Morimoto J., Otsuki Y.

39. CD9 siRNA GENE THERAPY CAN GENERALLY INHIBIT DIVERSE GROWHT FACTORS-INDUCED ANGIOGENESIS IN VITRO AND IN VIVO

Kamisasanuki T., Sakamoto T., Kosai K.

40. THE COMBINATION OF CHEMOTHERAPY WITH IMMUNE-COMPETENT HVJ-E CONTAINING Rad51 siRNA ELICITED VARIEGATED ANTI-TUMOR EFFECTS AND SYNERGISTICALLY SUPPRESSED MELANOMA.

Kiyohara E., Katayama I., Tamai K., Kaneda Y.

41. SIRNA FOR P53 PROTRCTS KIDNEYS FROM ISCHEMIA-REPERFUSION INJURY ON EXPERIMENTAL RAT KIDNEY TRANSPLANTATION MODEL

Isaka Y., Imamura R., Sandoval R. M., Molitoris B. A., Rakugi H., Takahara S.

Oral Presentation 5 (Abstracts 42-47)

VIRAL VECTOR-2

14:45-15:57, Room 2

Chairpersons: Makoto Migita, Mahito Nakanishi

42. A HIGH INCIDENCE REGION FOR RETROVIRAL VECTOR INTEGRATION NEAR EXON 1 OF THE LMO2 LOCUS

Tsukahara T., Yamada K., Yoshino K., Kojima K., Yamashita Y., Ozawa K., Takeshita T.

43. PRECLINICAL LONG-TERM SAFETY STUDY OF SIMIAN IMMUNODEFICIENCY VIRUS (SIV)-BASED LENTIVIRAL VECTOR FOR RETINAL GENE TRANSFER IN NON-HUMAN PRIMATES

Ikeda Y., Miyazaki M., Kohno R., Murakami Y., Yonemitsu Y., Murata T., Tabata T., Ueda Y., Hasegawa M., Sueishi K., Ishibashi T.

44. DEVELOPMENT OF FIBER-SUBSTITUTED ADENOVIRUS VECTORS CONTAINING FOREIGN PEPTIDES IN THE ADENOVIRUS SEROTYPE 35 FIBER KNOB

Matsui H., Sakurai F., Kurachi S., Tashiro K., Sugio K., Kawabata K., Yamanishi K., Mizuguchi H.

45. ENGINEERED SUBGROUP F ADENOVIRUS VECTOR TARGETING OF GASTROINTESTINAL TRACT

Yamasaki S., Davydova J. G., Miura Y., Brown E., Vickes S. M., Yamamoto M.

46. DIRECT COMPARISON OF ADENO-ASSOCIATED VIRUS SEROTYPES FOR GLOBAL GENE TRANSFER INTO THE CNS ACROSS THE BBB AFTER NEONATAL SYSTEMIC DELIVERY

Miyake N., Miyake K., Odagaki Y., Yamamoto M., Shimada T.

47. shRNA-MEDIATED GENE SILENCING IN NON-HUMAN PRIMATES WITH AAV8

Kubodera T., Ohira S., Katakai Y., Akari H., Hirai Y., Mizukami H., Ozawa K., Shimada T., Mizusawa H., Yokota T.

Oral Presentation 6 (Abstracts 48-51)

NON-VIRAL VECTOR

14:45-15:33, Room 3

Chairpersons: Hideyoshi Harashima, Yoshiro Niitsu

48. HIGHER DENSITY CROSSLINKING STRUCTURE IN STAR VECTOR CAN ENHANCE GENE TRANSFECTION EFFICIENCY

Borovkov A., Zhou Y. M., Tatsumi E., Nemoto Y., Nakayama Y.

49. THE IMPORTANCE OF NARROWING OF POLYDISPERSITY IN STAR VECTOR ON GENE TRANSFECTION ACTIVITY

Borovkov A., Nemoto Y., Omori K., Zhou Y. M., Tatsumi E., Nakayama Y.

50. EFFICIENT LIVER-SPECIFIC siRNA DELIVERY SYSTEM BY BIONANOCAPSULE-LIPOSOME FUSION TECHNOLOGY

Oda Y., Yamada I., Konishi A., Kinoshita R., Sumitani K., Hizume S., Matsuzaki T., Kuroda S., Goh Y.

51. EFFICIENT IN VIVO DELIVERY OF SIRNA TO THE LIVER AND BRAIN BY CONJUGATION OF ALPHA-TOCOPHEROL

Piao W., Uno Y., Kuwahara H., Nishina K., Mizusawa H., Yokota T.

Day 2: July 10, 2009

Oral Presentation 7 (Abstracts 52-60)

MOLECULAR TARGET-1

10:00-11:48, Room 2

Chairpersons: Hiromi Kumon, Hidetoshi Sumimoto

52. DIFFERENT ROLES OF ROCK ISOFORM IN MALIGNANT GLIOMA CELLS

Inaba N., Ishizawa S., Kimura M., Watanabe M., Shibasaki T., Manome Y.

53. INHIBITION OF A MAPK SIGNAL IN CANCER CELLS ENHANCED SPECIFIC ANTI-TUMOR IMMUNITY BY INCREASED PRODUCTION OF CHEMOKINES

Kajihara T. I., Sumimoto H., Kawamura N., Kawakami Y.

54. STK24 IS A SIGNALING MOLECULE FOR CANCER-INDUCED IMMUNO SUPPRESSION THROUGH IL-10 AND TGF-β 1 PRODUCTION

Kawamura N., Sumimoto H., Goto Y., Takata M., Saida T., Kawakami Y.

55. Eg5 siRNA COMBINED WITH HVJ ENVELOPE SYNERGISTICALLY INDUCED CELL DEATH IN GLIOBLASTOMA

Matsuda M., Yamamoto T., Matsumura A., Kaneda Y.

56. ADENOVIRUSES EXPRESSING THE INTERFERON-LAMBDAS GENE PRODUCED CYTOTOXIC EFFECTS AND INHIBITED PROLIFERATION OF ESOPHAGEAL CARCINOMA.

Tagawa M., Li Q., Kawamura K., Takei Y., Iwata F., Numazaki M., Yamaguchi N., Shimada H.

57. DOWN-REGULATION OF INHIBITION OF DIFFERENTIATION-1 VIA ACTIVATION OF ACTIVATING TRANSCRIPTION FACTOR3 AND SMAD REGULATES REIC/DICKKOPF-3–INDUCED APOPTOSIS

Kashiwakura Y.

58. A NOVEL STRATEGY OF CANCER GENE THERAPY BY TRANSCRIPTIONAL TARGETING OF AN ALLOGENEIC HISTOCOMPATIBILITY TRANSGENE

Kuwada E., Noguchi K., Seo N., Yamashiro H., Egawa K.

59. CYTOKINE-BASED LOG-SCALE EXPANSION OF FUNCTIONAL HUMAN DENDRITIC CELLS

Harada Y., Ueda.Y., Kinoh H., Komaru A., Ogawa T. F., Furuya A., Inoue M., Hasegawa M., Ichikawa T., Yonemitsu Y.

60. ANTI-PERIOSTIN ANTIBODY DECREASES GROWTH AND METASTASIS OF BREAST CANCER

Kyutoku M., Taniyama Y., Morishita R.

Oral Presentation 8 (Abstracts 61-65)

GENETIC AND METABOLIC SYNDROME

10:00-11:00, Room 3

Chairpersons: Tomomi Fujisawa, Tomohiro Katsuya

61. FAS PROMOTER REGION GENE POLYMORPHISM (-670G/A) IS A RISK FACTOR OF MYOCARDIAL INFARCTION OCCURRENCE

Takemura Y., Hanasaki H., Fukuo K., Ohishi M., Onishi M., Yasuda O., Katsuya T., Rakugi H.

62. GENOME-WIDE ASSOCIATION STUDY IN JAPANESE POPULATION IDENTIFIES SUSCEPTIBLE LOCI FOR PERIPHERAL ARTERIAL DISEASE.

Koriyama H., Nakagami H., Katsuya T., Sugimoto K., Akasaka H., Saitoh S., Maeda S., Nakamura Y., Kaneda Y., Rakugi H., Morishita R., Shimamoto K., Ogihara T.

63. ASSOCIATION OF CAROTID ATHEROSCLEROSIS WITH GENETIC POLYMORPHISMS OF THE REGULATOR OF G-PROTEIN SIGNALING 2 GENE IN PATIENTS WITH HYPERTENSION AND IN THE GENERAL POPULATION

Kamide K., Kokubo Y., Horio T., Okamura T., Miyata T., Rakugi H., Kawano Y.

64. IMPAIRED MEMORY FUNCTION IN TIMP-3 DEFICIENT MICE

Yasuda O., Baba Y., Takemura Y., Mogi M., Horiuchi M., Fukuo K., Rakugi H.

65. AMELIORATION OF TYPE 2 DIABETES MELLITUS BY COMPENSATORY AUGMENTATION OF BETA CELL NUMBER/MASS IN A MOUSE MODEL OF NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)

Fujisawa T., Fukai A. O., Sugimoto K., Nojima K., Shindo N., Shimoyoshi S., Yoshikawa Y., Sato Y., Shimomura I., Ikegami H., Rakugi H.

Oral Presentation 9 (Abstracts 66-70)

CARDIOVASCULAR DISEASE

11:00-12:00, Room 3

Chairpersons: Kei Kamide, Osamu Yasuda

66. Th17 CELLS, A NEW SUBSET OF CD4+T-CELLS, PLAYS AN IMPORTANT ROLE IN ANGIOGENIC RESPONSE TO HINDLIMB ISCHEMIA

Takahashi M., Hata T., Kawaguchi M., Kashima Y., Hida S., Izawa A., Iwakura Y., Taki S., Ikeda U.

67. POSSIBLE INVOLVEMENT OF AT2 RECEPTOR STIMULATION IN ADIPOCYTE DYSFUNCTION IN ATHEROSCLEROTIC MODEL MICE: STUDY USING RECEPTOR GENE KNOCKOUT MICE

Iwai M., Inaba S., Horiuchi M.

68. A MECHANISM OF ROBUST HEART TRANSDUCTION WITH RECOMBINANT ADENO-ASSOCIATED VIRUS TYPE 9 (AAV9), THE CARDIOTROPIC SEROTYPE

Kang Y., Kotchey N., Zahid M., Nakai H.

69. PDK1 AS A THERAPEUTIC TARGET FOR GENE THERAPY TO COORDINATE SURVIVAL PATHWAYS AND β-ADRENERGIC RESPONSE IN FAILING HEARTS

Akazawa H., Ito K., Komuro I.

70. INDUCED PLURIPOTENT STEM (iPS) CELL-DERIVED CARDIOMYOCYTE SHEETS TRANSPLANTATION HAS A THERAPEUTIC EFFECT IN ACUTE MYOCARDIAL INFARCTION IN MICE.

Miyagawa S., Miki K., Saito A., Uenaka H., Shimizu T., Okano T., Yamanaka S., Sawa Y.

Oral Presentation 10 (Abstracts 71-74)

BRAIN AND KIDNEY

14:00-14:48, Room 1

Chairpersons: Yoshitaka Isaka, Takanori Yokota

71. THE PROTECTIVE EFFECT OF FLUVASTATIN, A HMG-CoA REDUCTASE INHIBITOR, ON Aβ ACCUMULATIONS IN THE BRAIN

Shinohara M., Sato N., Kurinami H., Takeuchi D., Takeda S., Noma M., Morishita R.

72. ULTRASOUND-MEDIATED GENE TRANSFER OF HGF IMPROVED ABETA-INDUCED COGNITIVE IMPAIRMENT IN MICE ASSOCIATED WITH UPREGULATION OF BDNF, AND DOWNREGULATION OF OXIDATIVE STRESS.

Takeuchi D., Sato N., Kurinami H., Shimamura M., Takeda S., Shinohara M., Morishita R.

73. SYSTEMIC DELIVERY OF INTERLEUKIN-10 BY AN AAV VECTOR SUPPRESSES PROGRESSIVE RENAL DISEASE IN AN ANIMAL MODEL OF METABOLIC SYNDROME

Ogura M., Urabe M., Ito T., Mizukami H., Kume A., Kusano E., Ozawa K.

74. A SUPERAGONISTIC MONOCLONAL ANTIBODY FOR CD28 AMELIORATED CRESCENTIC GLOMERULONEPHRITIS IN WISTAR-KYOTO RATS

Takabatake Y., Li X. K., Miyasato K., Imai E., Hunig T., Takahara S., Rakugi H., Isaka Y.

Oral Presentation 11 (Abstracts 75-79)

HEART

14:48-15:48, Room 1

Chairpersons: Yukihiro Saito, Yoshiaki Taniyama

75. NEUTRALIZED ANTIBODY AGAINST PERIOSTIN 1 IMPROVED CARDIAC DYSFUNCTION IN RAT ACUTE MYOCARDIAL INFARCTION MODEL: *PERIOSTIN-1* AS A NOVEL THERAPEUTIC TARGET FOR HEART FAILURE

Taniyama Y., Azuma J., Iekushi K., Sanada F., Dosaka N., Kusunoki H., Okayama K., Rakugi H., Morishita R.

76. ZYXIN MEDIATES ACTIN FIBER REORGANIZATION IN EPITHELIAL-MESENCHYMAL TRANSITION AND CONTRIBUTES TO ENDOCARDIAL MORPHOGENESIS

Mori M., Nakagami H., Koibuchi N., Miura K., Takami Y., Koriyama H., Hayashi H., Sabe H., Mochizuki N., Morishita R., Kaneda Y.

77. DOCKING PROTEIN GAB 1 IS ESSENTIAL FOR HGF-DEPENDENT ENDOTHELIAL SIGNALING AND ANGIOGENESIS AFTER HINDLIMB ISCHEMIA

Nakaoka Y., Shioyama W., Higuchi K., Arita Y., Sanada F., Taniyama Y., Morishita R., Kuroda T., Fujio Y., Takihara K. Y., Mochizuki N., Komuro I.

78. DEFECT IN A HISTONE H3 LYSINE 36 TRIMETHYLTRANSFERASE WHSC1 CAUSES DISORDERED TRANSCRIPTION IN ES CELLS.

Ura K., Nimura K., Kaneda Y.

79. A HISTONE H3 LYSINE 36 TRIMETHYLTRANSFERASE WHSC1 LINKS TRANSCRIPTION FACTORS TO WOLF-HIRSCHHORN SYNDROME.

Nimura K., Ura K., Shiratori H., Kaneda Y.

Oral Presentation 12 (Abstracts 80-84)

MOLECULAR TARGET-2

14:00-15:00, Room 2

Chairpersons: Masatoshi Tagawa, Teruhiko Yoshida

80. ESTABLISHMENT OF A MOUSE MODEL FOR MLL-AF4 FUSION PROTEIN INDUCED LEUKEMIA

Tamai H., Miyake K., Shimada T., Inokuchi K.

81. CONSTRUCTION OF A NOVEL DNA DECOY THAT INHIBITS THE ONCOGENIC BETA-CATENIN/T-CELL FACTOR PATHWAY

Yamamoto H., Doki Y., Mori M.

82. GAP JUNCTION-MEDIATED BYSTANDER KILLING HIGHLIGHTS THE UTILITY OF THE TMPK/AZT SYSTEM FOR CANCER SUICIDE GENE THERAPY.

Sato T., Neschadim A., Medin J. A., Yanagisawa T.

83. IL-7 AND IL-15 ALLOW THE GENERATION OF SUICIDE GENE-MODIFIED ALLOREACTIVE SELF-RENEWING CENTRAL MEMORY HUMAN T LYMPHOCYTES.

Kaneko S., Mastaglio S., Bondanza A., Ponzoni M., Sanvito F., Aldrighetti L., Radrizzani M., La Seta-Catamancio S., Provasi E., Mondino A., Nagasawa T., Fleischhauer K., Russo V., Traversari C., Ciceri F., Bordignon C., Bonini C.

84. ANTAGONISM OF VEGF ACTIVITY IS CRITICAL TO STIMULATE ANTITUMOR IMMUNITY AGAINST PERITONITIS CARCIMATOSA DURING DC-BASED CANCER IMMUNOTHERAPY

Sugiyama M., Kakeji Y., Tanaka S., Yoshida K., Morita M., Inoue M., Hasegawa M., Maehara Y., Yonemitsu Y.

Oral Presentation 13 (Abstracts 85-94)

CANCER TARGETING-1

14:00-15:00, Room 3

Chairpersons: Hirofumi Hamada, Toshihiko Wakabayashi

85. ENHANCEMENT OF THE ANTITUMOR ACTIVITY OF INTERLEUKIN-12 BY TARGETED ELECTROGENE TRANSFER THROUGH ANTI-HER2 SINGLE-CHAIN ANTIBODY IN A MURINE BLADDER TUMOR MODEL

Wu C. L., Tsai Y. S., Chen Y. F., Tsai H. T., Tzai T. S., Shiau A. L.

86. ENHANCEMENT OF ANTITUMOR ACTIVITY OF GAMMARETROVIRUS CARRYING *IL-12* GENE VIA GENETIC MODIFICATION OF ENVELOPE TARGETING HER2 RECEPTOR: A PROMISING STRATEGY FOR BLADDER CANCER THERAPY

Shiau A. L., Tsai Y. S., Chen Y. F., Tsai H. T., Tzai T. S., Wu C. L.

87. ANTI TGF-β PANCREATIC CANCER GENE THERAPY WITH INFECTIVITY ENHANCED ADENOVIRUS EXPRESSING SOLUBLE TGF-β RECEPTOR II

Hoshino S., Adachi Y., Brown E., Yamamoto M.

88. EFFECTIVE GENE THERAPY FOR BILIARY CANCERS BY Z33 FIBER MODIFIED ADENOVIRUS VECTOR WITH TUMOR SPECIFIC ANTIBODIES

Kawashima R., Abei M., Nakamura K., Fukuda K., Murata T., Hyodo I., Hamada H., Obata Y., Yokoyama K. K.

89. GENE THERAPY FOR MELANOMA WITH FZ33-ADENOVIRUS AND ANTI-MCSP ANTIBODIES

Sakuragi N., Nakamura K., Hirai S., Kato K., Hamada H.

CANCER TARGETING-2 AND CLINICAL GENE THERAPY

15:00-16:00, Room 3

Chairpersons: Yoshikatsu Eto, Masafumi Onodera

90. TARGETING OF GLIOMA CELLS USING T-CELLS WITH TUMOR-SPECIFIC CHIMERIC T-CELL RECEPTORS

Ohno M., Natsume A., Yoshikawa K., Wakabayashi T.

91. INTERLEUKIN-13 RECEPTOR A 2 AS A MOLECULAR TARGET FOR MELANOMA.
Nakamura K., Kato K., Sakuragi N., Hamada H.

92. EGFR-TARGETED SELECTIVE GENE THERAPY FOR NON-SMALL CELL LUNG CANCER (NSCLC)
Yamaguchi M., Nakamura K., Sakuragi N., Kato K., Hamada H.

93. A REPORT OF THE PROGRESS FOR X-CGD GENE THERAPY IN JAPAN
Okada M. I., Okuyama T., Kobayashi S., Kawai T., Horiuchi Y., Kiyokawa N., Li X. K., Fujimoto J., Otsu M., Kume A., Ariga T., Mizukami T., Nunoi H., Kuratsuji T., Malech H. L., Kang E. M., Onodera M..

94. EVALUATION OF AN AUTOMATED CELL CULTURE SYSTEM FOR THE PRODUCTION OF THE VIRAL SUPERNATANT USED IN GENE THERAPY CLINICAL TRIALS
Inaki M., Onodera M., Tahara H., Wakitani S., Watakabe K., Ito S., Uemura T.

Day 3: July 11, 2009

Oral Presentation 14 (Abstracts 95-104)

STEM CELL-1

9:50-10:50, Room 1

Chairpersons: Kazuhiro Ikenaka, Yoshikazu Sugimoto

95. KINETICS AND EFFECT OF INTEGRIN EXPRESSION ON HUMAN CD34+ CELLS DURING MLV-DERIVED RETROVIRAL TRANSDUCTION WITH A RECOMBINANT FIBRONECTIN FOR STEM CELL GENE THERAPY
Horiuchi Y., Onodera M., Miyagawa Y., Sato B., Onda K., Katagiri Y. U., Okita H., Okada M., Otsu M., Kume A., Okuyama T., Fujimoto J., Kuratsuji T., Kiyokawa N.

96. IMPROVED ENGRAFTMENT OF GENE-MODIFIED HSC AFTER CO-TRANSPLANTATION WITH MSC IN NON-HUMAN PRIMATES
Masuda S., Ageyama N., Shibata H., Obara Y., Ikeda T., Takeuchi K., Ueda Y., Ozawa K., Hanazono Y.

97. INTERFERON GENE TRANSFER ENHANCES EFFECTIVE ANTITUMOR IMMUNITY IN EARLY PERIOD AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION
Narumi K., Kobayashi A., Kondoh A., Yoshida T., Aoki K.

98. MECHANISMS OF MSC (MESENCHYMAL STEM/STROMAL CELL) ACCUMULATION AT TUMOR SITES

Uchibori R., Mizuguchi H., Urabe M., Mizukami H., Kume A., Ozawa K.

99. THERAPEUTIC EFFECT OF GENETICALLY ENGINEERED MESENCHYMAL STEM CELLS IN RAT EXPERIMENTAL LEPTOMENINGEAL GLIOMA MODEL

Namba H., Gu C., Li S., Tokuyama T., Yokota N.

STEM CELL-2

10:50-11:50, Room 1

Chairpersons: Yutaka Hanazono, Hiroaki Mizukami

100. BLISTER-DERIVED FACTORS RECRUIT PDGFR-ALPHA-POSITIVE CELLS FROM BONE MARROW TO REGENERATE INJURED SKIN IN GENETIC BLISTERING SKIN DISEASE, RDEB

Tamai K., Yamazaki T., Chino T., Kaneda Y.

101. BONE MARROW CELL TRANSFER INTO FETAL CIRCULATION CAN AMELIORATE GENETIC SKIN DISEASES BY PROVIDING FIBROBLASTS TO THE SKIN AND INDUCING IMMUNE TOLERANCE

Chino T., Tamai K., Yamazaki T., Kaneda Y.

102. IN VITRO GENERATION OF THE HEMATOPOIETIC PROGENITOR/STEM CELLS FROM TAL1/SCL GENE-TRANSDUSED HUMAN ES CELLS

Kurita R., Kageyama R., Miura Y., Ozawa M., Hiramoto T., Yokoo T., Okada M., Suehiro Y., Inoue H., Takahashi A., Tani K.

103. GENERATION OF INDUCED PLURIPOTENT STEM CELLS FROM MICE WITH PRIMARY IMMUNODEFICIENCY DISEASES: TOWARDS iPS CELL-BASED GENE THERAPY FOR GENETIC DISEASES

Okabe M., Takeuchi Y., Otsu M., Nakauchi H.

104. RETROVIRUS INTEGRATION SITE ANALYSIS OF HUMAN INDUCED PLURIPOTENT STEM (iPS) CELLS

Sugimoto Y., Iwasaki K., Yamahara Y., Katayama K., Noguchi K., Mitsuhashi J., Akamatsu W., Okano H.

Oral Presentation 15 (Abstracts 105-114)

GENETIC DISEASE-1

9:50-10:50, Room 2

Chairpersons: Toya Ohashi, Torayuki Okuyama

105. LIVER-TARGETED GENE THERAPY WITH A SELF-COMPLEMENTARY AAV AMELIORATED BRAIN AMINERGIC DEFICIT IN PHENYLKETONURIA MICE

Yagi H., Sanechika S., Ichinose H., Mizukami H., Ogura T., Urabe M., Hamada H., Yoshikawa H., Ozawa K., Kume A.

106. NEUTRALIZING ANTIBODY AGAINST VECTOR CAPSID AFFECTS LIVER-MEDIATED FACTOR IX EXPRESSION IN NON-HUMAN PRIMATES USING AAV VECTORS

Mizukami H., Mimuro J., Ishiwata A., Ono F., Yagi H., Urabe M., Kume A., Terao K., Yasutomi Y., Sakata Y., Ozawa K.

107. INCREASING THE UREAGENIC CAPACITY OF *spf*^{ash} MOUSE HEPATOCYTES *IN VIVO*: TOWARDS GENE THERAPY FOR ORNITHINE TRANSCARBAMYLASE DEFICIENCY

Kok C., Cunningham S., Carpenter K., Kuchel P., Alexander I.

108. EFFECTIVE AAV8 VECTOR-MEDIATED MICRODYSTROPHIN TRANSDUCTION OF SKELETAL MUSCLES IN NORMAL PRIMATE

Ishii A., Shin J. H., Katakai Y., Ono F., Okada T., Takeda S.

109. DEVELOPMENT OF ZINC-FINGER NUCLEASES TARGETING THE HUMAN *HPRT* LOCUS

Suzuki K., Kishimoto A., Mitsui K., Mitani K.

GENETIC DISEASE-2

10:50-11:50, Room 2

Chairpersons: Hiroyuki Nunoi, Makoto Otsu

110. CELL THERAPEUTIC APPROACH TO DUCHENNE MUSCULAR DYSTROPHY USING MYOGENIC DIFFERENTIATION OF MULTIPOTENT MESENCYMAL STROMAL CELLS IN DOG

Kasahara Y. N., Kinoh H. H., Shin J. H., Nishiyama A., Hosoyama S. O., Maeda M. W., Nakamura A., Okada T., Takeda S.

111. PRECLINICAL STUDIES TO IMPROVE THE EFFICACY OF STEM CELL GENE THERAPY FOR X-CGD

Takeuchi Y., Otsu M., Onodera M., Kume A., Nakauchi H.

112. ADENO-ASSOCIATED VIRUS (AAV) TYPE-8 MEDIATED SYSTEMIC NEONATAL GENE THERAPY FOR HYPOPHOSPHATASIA

Matsumoto T., Yamamoto S., Miyake K., Miyake N., Orimo H., Shimada T.

113. SUCCESSFUL TREATMENT OF HANDS IN A PATIENT WITH RECESSIVE EPIDERMOLYSIS BULLOSA USING NEW SKIN EQUIVALENT WITH AMNION

Yang L., Shirakata Y., Nakaoka H., Hashimoto K.

114. RECESSIVE DYSTROPHIC EPIDERMOLYSIS BULLOSA: MUTATIONAL ANALYSIS TOWARD GENE THERAPY

Nakano H., Tamai K., Sawamura D.

Oral Presentation 16 (Abstracts 115-120)

ONCOLYTIC VECTOR-2

13:00-14:12, Room 2

Chairpersons: Makoto Inoue, Masaaki Mizuno

115. BIOKNIFE (UROKINASE-TARGETED ONCOLYTIC SENDAI VIRUS VECTOR) AS AN EFFECTIVE TOOL TO TREAT ORTHOTOPIC MODEL OF HUMAN MALIGNANT PLEURAL MESOTHELIOMA.

Morodomi Y., Yano T., Kinoh H., Ito K., Shoji F., Yoshida K., Ueda Y., Inoue M., Hasegawa M., Maehara Y., Yonemitsu Y.

116. ENGINEERED MEASLES VIRUS MV-NPL AS A NOVEL ONCOLYTIC THERAPY

Okazaki T., Meng X., Inoue H., Takahashi A., Sakaguchi G., Eto M., Naito S., Nakamura T., Yanagi Y., Tani K.

117. ENHANCED ANTITUMOR EFFICACY OF THIRD GENERATION ONCOLYTIC HSV-1 ARMED WITH SOLUBLE B7-1 IN MICE HARBORING POORLY IMMUNOGENIC NEUROBLASTOMA

Tsurumaki Y., Fukuhara H., Homma Y., Ino Y., Todo T.

118. A PROSTATE-TARGETED TSTA ONCOLYTIC ADENOVIRAL VECTOR EXHIBITING EFFICIENT TUMOR CELL KILLING

Sato M., Powell R., Sanjiv G. S., Carey M., Wu L.

119. MIDKINE PROMOTER-DRIVEN ONCOLYTIC ADENOVIRUS ACHIEVES EFFECTIVE TARGETING OF HUMAN MALIGNANT MESOTHELIOMA CELLS IN VITRO AND IN VIVO

Kubo S., Kawasaki Y., Yamamoto H., Tagawa M., Kasahara N., Okamura H.

120. IMPROVED PRODRUG ACTIVATOR GENE THERAPY FOR CANCER

Gruber H., Perez O., Ibanez C., Pertchuk D., Gessner D., Robbins J., Kasahara N., Logg C. R., Jolly D. J.

Oral Presentation 17 (Abstracts 121-125)

INFECTIOUS AND INFLAMMATORY DISEASE

13:00-14:00, Room 3

Chairpersons: Akihiro Kume, Yasuji Ueda

121. NOVEL THERAPEUTIC AND PROPHYLACTIC VACCINE (HVJ-ENVELOPE/HSP65 DNA+IL-12 DNA) AGAINST TUBERCULOSIS USING CYNOMOLGUS MONKEY

Okada M., Kita Y., Nakajima T., Kanamaru N., Hashimoto S., Nagasawa T., Kaneda Y., Yoshida S., Nishida Y., Nakatani H., Takao K., Kishigami C., Nishimatsu S., Matsumoto M., Tan E. V., Saunderso P., Sakatani M.

122. VIRAL ELIMINATION BY A SELECTIVE EXPRESSION OF IRF7 IN HUMAN HEPATOCYTES INFECTED WITH HCV

Wen X., Abe T., Taguwa S., Mori Y., Moriishi K., Matsuura Y.

123. HIV-1 CO-RECEPTOR CCR5 KNOCKDOWN BY RNA INTERFERENCE IN VIVO IN THE NOD/SCID-HU BLT HUMANIZED MOUSE MODEL.

Shimizu S., Hong P., Pokomo L., Boyer J., Kittipongdaja P., Chen A., Bristol G., Galic Z., Zack J. A., Chen I. S. Y., Lee B., An D. S.

124. INHIBITION OF STAT3 SIGNALING AS A NOVEL WAY TO ANTI-PSORIASIS

Takaishi M., Miyoshi K., Nakajima K., Sano S.

125. ROLE OF RIBBON TYPE NFkB DECOY OLIGODEOXYNUCLEOTIDES ON INFLAMMATORY BOWEL DISEASE MODEL RATS.

Ozaki K., Makino H., Miyake T., Takeya Y., Morishita R.