

# 【動物実験施設利用者研究業績】

(2006年、2007年)

## 【基礎】

- 生体構造医学講座 (Anatomical Science)
  - 形態形成機構学 (Department of Anatomy and Developmental Biology)
- 生体制御医学講座 (Bioregulation)
  - 遺伝薬理学 (Department of Pharmacology)
- 腫瘍生物学講座 (Pathology and Tumor Biology)
  - 腫瘍生物学 (Department of Pathology and Tumor Biology)
- 基礎病態学講座 (Basic Pathology)
  - 病態生物医学 (Department of Pathology and Biology of Diseases)
- 感染・免疫学講座 (Infectious Diseases and Immunology)
  - 微生物感染症学 (Department of Microbiology)
  - 免疫細胞生物学 (Department of Immunology and Cell Biology)
- 分子生体制御学講座 (Molecular Biology)
  - 分子生物学 (Department of Medical Chemistry and Molecular Biology)
  - 分子腫瘍学 (Department of Molecular Oncology)
- 遺伝医学講座 (Medical Genetics)
  - 分子遺伝学 (Department of Molecular Genetics)
- 高次脳科学講座 (Basic Neuroscience)
  - 高次脳形態学 (Department of Morphological Brain Science)
  - 認知行動脳科学 (Department of Integrative Brain Science)
  - 神経・細胞薬理学 (Department of Cell Pharmacology)
- 附属研究施設 (Research Facilities)
  - 附属動物実験施設 (Institute of Laboratory Animals)
  - 先端技術センター (Frontier Technology Center)

## 【臨床】

- 内科学講座 (Internal Medicine)
  - 内分泌・代謝内科学 (Department of Medicine and Clinical Science)
  - 循環器内科学 (Department of Cardiovascular Medicine)
  - 消化器内科学 (Department of Gastroenterology and Hepatology)
  - 臨床免疫学 (Rheumatology and Clinical Immunology)
  - 加齢医学 (Department of Geriatric Medicine)
  - 糖尿病・栄養内科学 (Department of Diabetes and Clinical Nutrition)
- 発生発達医学講座 (Developmental Medicine)
  - 発達小児科学 (Department of Pediatrics)
- 放射線医学講座 (Radiology and Nuclear Medicine)

放射線腫瘍学・画像応用治療学(Department of Radiation Oncology and Image-Applied Therapy)  
外科学講座 (Surgery)  
    肝胆膵・移植外科学 (Department of Hepatobiliary Pancreatic Surgery and Transplantation)  
器官外科学講座 (Surgery for Visceral Organs)  
    婦人科学・産科学 (Department of Gynecology and Obstetrics)  
    心臓血管外科学 (Department of Cardiovascular Surgery)  
感覚運動系外科学講座 (Surgery for Sensory and Motor Systems)  
    形成外科学 (Department of Plastic and Reconstructive Surgery)  
    耳鼻咽喉科・頭頸部外科学 (Department of Otolaryngology-Head and Neck Surgery)  
    整形外科 (Department of Orthopaedic and Musculoskeletal Surgery)  
    口腔外科学 (Department of Oral and Maxillofacial Surgery)  
脳病態生理学講座 (Clinical Neuroscience)  
    臨床神経学 (Department of Neurology)  
    脳神経外科学 (Department of Neurosurgery)  
附属病院  
    輸血細胞治療部 (Department of Transfusion Medicine and Cell Therapy)  
    探索医療センター (Translational Research Center)  
    薬剤部 (Department of Pharmacy)

#### 【その他】

社会健康医学系

    環境衛生学 (Health and Environmental Sciences)

生命科学系キャリアパス形成ユニット (Career-Path Promotion Unit for Young Life Scientists)

寄付講座 (Contributed Chairs)

    臓器機能保存学 (Department of Organ Preservation Technology)

    免疫ゲノム医学 (Department of Immunology and Genomic Medicine)

## 形態形成機構学 (Anatomy and Developmental Biology)

Saito H, Shiota K, Ishibashi M (2006). Analysis of Fibroblast growth factor 15 cis-elements reveals two conserved enhancers which are closely related to cardiac outflow tract development. *Mech Develop*, in press

## 遺伝薬理学 (Pharmacology)

Taketo MM (2006) Wnt signaling and gastrointestinal tumorigenesis in mouse models. *Oncogene*, 25:7522-7530

Takeda H, Miyoshi H, Kojima Y, Oshima M, and Taketo MM (2006) Accelerated onsets of gastric hamartomas and hepatic adenomas/carcinomas in *Lkb1<sup>+/+</sup>p53<sup>+/-</sup>* compound mutant mice. *Oncogene*, 25:1816-1820

Kitamura T, and Taketo MM (2007) Keeping out the bad guys: gateway to cellular target therapy. *Cancer Res*, 67: 10099-10102.

Aoki K, and Taketo MM (2007). Adenomatous polyposis coli (APC): a multi-functional tumor suppressor gene. *J Cell Sci*, 120: 3327-3335.

Kojima Y, Miyoshi H, Clevers HC, Oshima M, Aoki M, and Taketo MM (2007) Suppression of tubulin polymerization by the LKB1-microtubule-associated protein/microtubule affinity-regulating kinase signaling. *J Biol Chem*, 282: 23532-23540.

Kawada K, Hosogi H, Sonoshita M, Sakashita H, Manabe T, Shimahara Y, Sakai Y, Takabayashi A, Oshima M, and Taketo MM (2007) Chemokine receptor CXCR3 promotes colon cancer metastasis to lymph nodes. *Oncogene*, 26: 4679-4688.

Aoki K, Aoki M, Sugai M, Harada N, Miyoshi H, Tsukamoto T, Mizoshita T, Tatsumi S, Seno H, Chiba T, Oshima M, Hsieh CL, and Taketo MM (2007) Chromosomal instability by  $\beta$ -catenin/TCF transcription in Apc or  $\beta$ -catenin mutant cells. *Oncogene*, 26: 3511-3520.

Kitamura T, Kometani K, Hashida H, Matsunaga A, Miyoshi H, Hosogi H, Aoki M, Oshima M, Hattori M, Takabayashi A, Minato N, and Taketo MM (2007) SMAD4-deficient intestinal tumors recruit CCRI<sup>+</sup>-myeloid cells that help invasion. *Nat Genet*, 39: 467-475.

## 腫瘍生物学 (Pathology and Tumor Biology)

Toyama R., Nabeshima Y., Tsuji Y., Fujimori T., Nabeshima Y. Impaired regulation of gonadotropin-releasing hormone leads to the atrophy of the female reproductive system in klotho-deficient mice. *Endocrinology* 147(1), 120-129 (2006)

Kawauchi T., Chihama K., Nabeshima Y., Hoshino M., Cdk5 phosphorylates and stabilizes p27kip1, contributing to cortical neuronal migration. *Nature Cell Biol.* 8(1) 17-26 (2006)

Yoshida S., Sukeno M., Nakagawa T., Ohbo K., Nagamatsu G., Suda T., and Nabeshima Y. The first round of mouse spermatogenesis is a distinctive program that lacks the self-renewing spermatogonia stage. *Development* 133(8) 1495-1505 (2006)

Ishii Y., Oya T., Zheng L., Gao Z., Kawaguchi M., Sabit H., Matsushima T., Tokunaga A., Ishizawa S., Hori E, Nabeshima Y., Sasaoka T., Fujimori F., Mori H., Sasahara M. Mouse brains deficient in neuronal PDGF receptor develop normally but are vulnerable to injury. *J. Neurochem.* 98(2), 588-600 (2006)

Segawa H, Yamanaka S, Ohno Y, Onitsuka A, Shiozawa K, Aranami F, Furutani J, Tomoe Y, Ito M, Kuwahata M, Tatsumi S, Imura A, Nabeshima Y, Miyamoto KI. Correlation between hyperphosphatemia and type II Na/Pi cotransporter activity in klotho mice. *Am J Physiol Renal Physiol.* 292(2), F769-779 (2006)

amada M., Terao M., Terashima T., Fujiyama T., Kawaguchi Y., Nabeshima Y., Hoshino M. Origin of climbing fiber neurons and their developmental dependence on *Ptfla*. *J. Neurosci.* 27(41); 10924-10934 (2007)

Yoshida S. Nabeshima Y., Nakagawa T. Stem cell heterogeneity: Actual and potential stem cell compartments in the mouse spermatogenesis. *Ann. N Y Acad. Sci.* PMID: 17905929 (2007)

Yoshida S., Sukeno M., Nabeshima Y. A Vascular-associated niche for undifferentiated spermatogonia in the mouse testis. *Science* 317, 1722-1726 (2007)

Imura A., Tsuji Y., Murata M., Maeda R. Kubota K., Iwano A., Obuse C., Togashi K., Tominaga M., Kita N., Tomiyama K., Iijima J., Nabeshima Y., Fujioka M., Asato R., Tanaka S., Kojima K., Ito J., Nozaki K., Hashimoto N., Ito T., Nishio T., Uchiyama T., Fujimori T., Nabeshima Y. a-Klotho as a regulator of Calcium homeostasis. *Science* 316, 1615-1618 (2007)

Kurotaki Y. Hatta K., Nakao K., Nabeshima Y., Fujimori T. Blastocyst axis is specified independently of early cell lineage but aligns with the ZP shape. *Science* 316, 719-723 (2007)

Nakagawa T., Nabeshima Y., Yoshida S. Functional identification of the actual and potential stem cell compartments in mouse spermatogenesis. *Dev. Cell* 12, 1-12 (2007)

Sato A., Hirai T., Imura A., Kita A., Iwano A., Muro S., Nabeshima Y., Suki B., Mishima M. Morphological mechanism of the development of pulmonary emphysema in klotho mice. *Proc Natl Acad Sci USA* 104(7), 2331-2336 (2007)

吉田松生：哺乳類精巣における精子形成幹細胞システム  
蛋白質核酸酵素 増刊「生殖細胞の発生・エピジェネティクスと再プログラム化」2080-2086 (2007)

吉田松生：生殖幹細胞ニッチ - モデル動物 から 哺乳類 を考える  
医学のあゆみ, 221 569-574, (2007)

## 病態生物医学 (Pathology and Biology of Diseases)

- Shinohara M, Inoue K, Lee J, Miki H, Ogonuki N, Toyokuni S, Ogura A and Shinohara T. Anchorage-independent growth of mouse male germline stem cells in vitro. *Biol Reprod* 74: 522-529, 2006.
- Sakuma K, Fujimoto I, Hitoshi S, Tanaka F, Ikeda T, Tanabe K, Toyokuni S, Wada H, Mio T, Mishima M, Ikenaka K. An N-glycan structure correlates with pulmonary metastatic ability of cancer cells. *Biochem Biophys Res Commun* 349: 829-835, 2006.
- Toyokuni S. Novel aspects of oxidative stress-associated carcinogenesis. *Antiox Redox Signal* 8: 1373-1377, 2006.
- Toyokuni S, Akatsuka S. What has been learned from the studies of oxidative stress-induced carcinogenesis: proposal of the concept of oxygenomics. *J Clin Biochem Nutr* 39: 3-10, 2006.
- Kanatsu-Shinohara M, Ikawa M, Takehashi M, Ogonuki N, Miki H, Inoue K, Kazuki Y, Lee J, Toyokuni S, Oshimura M, Ogura A, Shinohara T. Production of knockout mice by random or targeted mutagenesis in spermatogonial stem cells. *Proc Natl Acad Sci USA* 103:8018-23, 2006.
- Lee W-H, Akatsuka S, Shirase T, Dutta KK, Jiang L, Liu Y-T, Onuki J, Yamada Y, Okawa K, Wada Y, Watanabe A, Kohro T, Noguchi N and Toyokuni S.  $\alpha$ -Tocopherol induces calnexin in renal tubular cells: Another protective mechanism against free radical-induced cellular damage. *Arch Biochem Biophys* 453: 168-178, 2006.
- Akatsuka S, Aung TT, Dutta KK, Jiang L, Lee W-H, Liu Y-T, Onuki J, Shirase T, Yamasaki K, Ochi H, Naito Y, Yoshikawa T, Kasai H, Tominaga Y, Sakumi K, Nakabeppu Y, Kawai Y, Uchida K, Yamasaki A, Tsuruyama T, Yamada Y and Toyokuni S. Contrasting Genome-wide Distribution of 8-Hydroxyguanine and Acrolein-modified Adenine during Oxidative Stress-induced Renal Carcinogenesis. *Am J Pathol* 169: 1328-1342, 2006.
- Jiang L, Zhong Y, Akatsuka S, Liu Y-T, Dutta KK, Lee W-H, Onuki J, Masumura K, Nohmi T and Toyokuni S. Deletion and single nucleotide substitution at G:C are major mutations in the kidney of *gpt* delta transgenic mice after the Fenton reaction. *Cancer Sci* 97: 1159-1167, 2006.
- Okuno M, Minami K, Okumachi A, Miyawaki K, Yokoi N, Toyokuni S, Seino S. Generation of insulin-secreting cells from pancreatic acinar cells of animal models of type I diabetes. *Am J Physiol Endocrinol Metab* 292: E158-165 2007.
- Takenaka H, Kihara Y, Iwanaga Y, Onozawa Y, Toyokuni S, Kita T. Angiotensin II, oxidative stress, and extracellular matrix degradation during transition to LV failure in rats with hypertension. *J Mol Cell Cardiol* 41: 989-997, 2006.
- Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Yoshida S, Toyokuni S, Lee J, Ogura A and Shinohara T. Leukemia inhibitory factor enhances formation of germ cell colonies in neonatal mouse testis culture. *Biol Reprod* 76: 55-62, 2007.
- Hamasaki A, Yamada Y, Kurose T, Ban N, Nagashima K, Takahashi A, Fujimoto S, Shimono D, Fujiwara M, Toyokuni S, Seino Y and Inagaki N. Adult pancreatic islets require differential pax6 gene dosage. *Biochem Biophys Res Commun* 353: 40-46, 2007.
- Takehashi M, Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Toyokuni S, Ogura A, and Shinohara T. Adenovirus-mediated gene delivery into mouse spermatogonial stem cells. *Proc Natl Acad Sci USA* 104: 2596-2601, 2007.
- Toyokuni S and Akatsuka S. Pathological investigation of oxidative stress in the post-genomic era. *Pathol Int* 57: 461-473, 2007.
- Zhong Y, Li J, Hiai H, Toyokuni S and Yamada Y. Overexpression of a transcription factor LYL-1 induces T- and B-cell lymphoma in mice. *Oncogene* 26: 6937-6947, 2007
- Lee J, Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Toyokuni S, Kimura T, Nakano T, Ogura A and Shinohara T. Akt mediates self-renewal division of mouse spermatogonial stem cells. *Development*. 134: 1853-1859, 2007.
- Dutta KK, Zhong Y, Liu YT, Yamada T, Akatsuka S, Hu Q, Yoshihara M, Ohara H, Takehashi M, Shinohara T, Masutani H, Onuki J and Toyokuni S. Association of microRNA-34a overexpression with proliferation is cell type-dependent. *Cancer Sci* 98: 1845-1852, 2007.
- Liu YT, Shang DH, Akatsuka S, Ohara H, Dutta KK, Mizushima K, Naito Y, Yoshikawa T, Izumiya M, Abe K, Nakagama H, Noguchi N and Toyokuni S. Chronic oxidative stress causes amplification and overexpression of *ptprz1* protein tyrosine phosphatase to activate  $\beta$ -catenin pathway. *Am J Pathol* 171: 1978-1988, 2007.
- Takehashi M, Kanatsu-Shinohara M, Miki H, Lee J, Kazuki Y, Inoue K, Ogonuki N, Toyokuni S, Oshimura M, Ogura A and Shinohara T. Production of knockout mice by gene targeting in multipotent germline stem cells. *Development Biol* 312: 344-352, 2007.

## 微生物感染症学 (Microbiology)

- Yamamoto K, Kawamura I, Ito J, and Mitsuyama M (2006) Modification of allergic inflammation in murine model of rhinitis by different bacterial ligands: involvement of mast cells and dendritic cells. *Clin Exp Allergy*, 36: 760-769.
- Yamamoto K, Kawamura I, Tominaga T, Nomura T, Ito J, and Mitsuyama M (2006) Listeriolysin O derived from *Listeria monocytogenes* inhibits the effector phase of an experimental allergic rhinitis induced by ovalbumin in mice. *Clin Exp Immunol*, 144: 475-484.
- Watanabe I, Nomura T, Tominaga T, Yamamoto K, Kohda C, Kawamura I, and Mitsuyama M (2006) Dependence of the lethal effect of pore-forming haemolysins of Gram-positive bacteria on cytolytic activity. *J Med Microbiol*, 55: 505-510.
- Kaku T, Kawamura I, Uchiyama R, Kurenuma T, and Mitsuyama M (2007) RD1 region in mycobacterial genome is involved in the induction of necrosis in infected RAW264 cells via mitochondrial membrane damage and ATP depletion. *FEMS Microbiol Lett*, 274: 189-195.
- Nomura T, Kawamura I, Kohda C, Baba H, Ito Y, Kimoto T, Watanabe I, and Mitsuyama M (2007) Irreversible loss of membrane-binding activity of *Listeria*-derived cytolysins in non-acidic conditions: a distinct difference from allied cytolysins produced by other Gram-positive bacteria. *Microbiology*, 153: 2250-2258.

Hara H, Kawamura I, Nomura T, Tominaga T, Tsuchiya K, and Mitsuyama M (2007) Cytolysin-dependent escape of the bacterium from the phagosome is required but not sufficient for induction of the Th1 immune response against *Listeria monocytogenes* infection: distinct role of listeriolysin O determined by cytolysin gene replacement. *Infect Immun*, 75: 3791-3801.

Uchiyama R, Kawamura I, Fujimura T, Kawanishi M, Tsuchiya K, Tominaga T, Kaku T, Fukasawa Y, Sakai S, Nomura T, and Mitsuyama M (2007) Involvement of caspase-9 in the inhibition of necrosis of RAW 264 cells infected with *Mycobacterium tuberculosis*. *Infect Immun*, 75: 2894-2902.

Kohwiwattanagun J, Kawamura I, Fujimura T, and Mitsuyama M (2007) Mycobacterial mammalian cell entry protein 1A (Mce1A)-mediated adherence enhances the chemokine production by A549 alveolar epithelial cells. *Microbiol Immunol*, 51: 253-261.

## 免疫細胞生物学 (Immunology and Cell Biology)

Motohara, M., Ibuki, K., Miyake, A., Fukazawa, Y, Inaba, K., Suzuki, K, Masuda, K., Minato, N, Kawamoto, H, Nakasone, T., Honda, M., Hayami, M. and Miura, M. (2006). Impaired T cell differentiation in the thymus at the early stages of acute pathogenic SHIV infection in contrast to less pathogenic SHIV infection. *Microbes and Infection*. 8,1539-1549.

Jin, A., Kurosu, T., Tsuji, K., Mizuchi, D., Arai, A., Fujita, H., Hattori, M., Minato, N., and Miura, O. (2006) BCR/ABL and IL-3 activate Rap1 to stimulate B-Raf/MEK/Erk and Akt signaling pathways and to regulate proliferation, apoptosis, and adhesion. *Oncogene*, 20:4332-4340.

Ishida, D., Su, L., Shinozuka, Y., Tamura, A., Katayama, Y., Kawai, Y., Wang, S-F, Taniwaki, M., Hamazaki, Y., Hattori, M., and Minato, N. (2006) Rap1 Signal Controls B Cell Receptor Repertoire and Generation of Self-reactive B1 Cells. *Immunity*, 24,417-427.

Tanaka K, Ozawa K, Teramukai S, Takada Y, Egawa H, Kaihara S, Fujimoto Y, Ogura Y, Kasahara M, Ono M, Sato H, Takai K, Fukushima M, and Minato N. (2006) Classification of human liver transplant recipients by their preoperative CD8 (+) T cell subpopulation and its relation to outcome. *Liver Transpl*. 20,792-800.

Kato, Y., Tanaka, Y., Hayashi, M., Kita, S., Okawa, K., and Minato, N. (2006) Involvement of CD166 in the activation of human  $\gamma\delta$  T cells by tumor cells sensitized with nonpeptide antigens. *J.Immunol*. 177,877-884.

Kobayashi, H., Tanaka, Y., Yagi, J., Osaka Y., Nakazawa, H., Uchiyama T., Miinato, N., and Toma, H. (2006) Safety and anti-tumor effects of adoptive immunotherapy using gamma-delta T cells against advanced renal cell carcinoma: a pilot study. *Cancer Immunol. Immunother*. 56:449-453.

Kometani, K., Kawamata, S., Shinozuka, Y., Era, T., Taniwaki, M., Hattori, M., and Minato, N. (2006) Role of SPA-1 in phenotypes of CML induced by BCR-ABL-expressing hematopoietic progenitors in mouse model. *Cancer Res*. 66, 9967-9976.

Katakai, T., Nomura, T., Gonda, H., Sugai, M., Agata, Y., Nishio, A., Masuda, T., Sakaguchi, S., Shimizu, A. (2006) Spontaneous Large-scale Lymphoid Neogenesis and Balanced Autoimmunity versus Tolerance in the Stomach of H+/K+-ATPase-reactive TCR Transgenic Mouse. *J. Immunol.*, 177: 7858-7867.

Tanaka, Y., H. Kobayashi, T. Terasaki, H. Toma, A. Aruga, T. Uchiyama, B. Mikami, C. T. Morita, and N. Minato (2007) Synthesis of Pyrophosphate-Containing Compounds that Stimulate  $V\gamma 2V\delta 2$  T Cells: Application to Cancer Immunotherapy. *Medicinal Chemistry*.1:85-99.

Hamazaki, Y, Fujita, H, Kobayashi, T, Choi, Y, H. Scott, Matsumoto, M, and Minato, N. (2007) Medullary thymic epithelial cells expressing Aire represent a unique lineage derived from claudin-expressing cells. *Nature Immunol*. 8:304-311.

Minato, N, K.Kometani, and M.Hattori. (2007) Regulation of immune responses and hematopoiesis by the Rap1 signal. (Review) *Adv. Immunol*. 93: 229-264.

Kitamura, T., Kometani, K., Hashiba, H., Matsunaga, A., Miyoshi, H., Hosogi, H., Aoki, M., Oshima, M., Hattori, M., Takabayashi, A., Minato, N., and Taketo, M. (2007) Intestinal tumors inactivated in TGF- $\beta$  signaling secrete CCL9 and recruit CCR1+ myeloid cells that help invasion. *Nature Gen*. 39:467-475.

Koshihara, T., Li, Y., Takemura, M., Wu, Y., Sakaguchi, S., Minato, N., Wood, K.J., Haga, H., Ueda, M., and Uemoto, S. (2007) Clinical, immunological, and pathological aspects of operational tolerance after pediatric living-liver transplantation. *Transplant Immunol*. 17:94-97.

Hamanishi J, Mandai, M., Iwasaki, M., Okazaki, T., Tanaka, Y., Yamaguchi, K., Higuchi, T., Yagi, H., Takakura, K, Minato, N., Honjo, T., and Fujii, S. (2007) PD-L1 and tumor-infiltrating CD8+ T lymphocytes are independent prognostic factors of human ovarian cancer. *Proc. Natl. Acad. Sci. USA*.104; 104:3360-3365.

Terawaki, S, Tanaka, Y, Nagakura, T, Hayashi, T, Shibayama, S, Muroi, K, Okazaki, T, Mikami, B, Garboczi, D, Honjo, T, and Minato, N. (2007) Specific and high-affinity binding of tetramerized PD-L1 extracellular domain to PD-1 expressing cells: possible application to enhance T cell function. *Int. Immunol*. 19: 881-890.

Sakata D, Taniguchi H, Yasuda S, Adachi-Morishima A, Hamazaki Y, Nakayama R, Miki T, Minato N, and Narumiya S. (2007) Impaired T lymphocyte trafficking in mice deficient in an actin-nucleating protein mDia1. *J. Exp. Med*. 204:2031-2038.

Masuda, K, Kakugawa, K, Nakayama, T, Minato, N, Katsura, Y, and Kawamoto, H. (2007) T cell lineage determination precedes the initiation of TCR $\beta$  gene rearrangement. *J. Immunol*. 179:3699-3706.

Hiratsuka T, Tsuruyama T, Kaszynski R, Kometani K, Minato N, Nakamura T, Tamaki K, Hiai H. (2007) Bone marrow pre-B expansion by SL/Kh-Bomb1 locus: Not sufficient for lymphomagenesis. *Leuk Res*. 32:2031-2038

Korematsu, S., Yoshimasa, T., Nagakura, T., Minato, M., and Izumi, T. (2007) Human  $\gamma\delta$  T cells inhibit IL-4 production by mite allergen-specific Th2-type  $\alpha\beta$  T cells. *Clin Exp Allergy*. 37:1681-1687

Agata, Y., Tamaki, N., Ikawa, T., Masuda, K., Sakamoto, S., Kawamoto, H., Murre, C. (2007) Regulation of T Cell Receptor b Gene

Rearrangements and Allelic Exclusion by the Helix-Loop-Helix Protein, E47. *Immunity*, 27: 871-884.

## 分子生物学 (Medical Chemistry and Molecular Biology)

Nakaya, M., Tanaka, M., Okabe, Y., Hanayama, R., and Nagata, S.: Opposite effects of Rho family GTPases on engulfment of apoptotic cells by macrophages. *J. Biol. Chem.* 281: 8836-8842, 2006

Kawane, K., Ohtani, M., Miwa, K., Kizawa, T., Kanbara, Y., Yoshioka, Y., Yoshikawa, H., and Nagata, S.: Chronic polyarthritis caused by mammalian DNA that escapes from degradation in macrophages. *Nature* 443: 998-1002, 2006

Ueda, T., Watanabe-Fukunaga, R., Ogawa, H., Fukuyama, H., Higashi, Y., Nagata, S., and Fukunaga, R.: Critical Role of the p400/mDomino Chromatin-Remodeling ATPase in Embryonic Hematopoiesis. *Genes to Cells*, 12: 581-592. 2007

Nakahara, M., Nagasaka, A., Koike, M., Uchida, K., Kawane, K., Uchiyama, Y., and Nagata, S.: Degradation of nuclear DNA by DNase II-like Acid DNase in cortical fiber cells of mouse eye lens. *FEBS J.*, 274: 3055-3064. 2007

Miyaniishi, M., Tada, K., Koike, M., Uchiyama, Y., Kitamura, T., and Nagata, S.: Identification of Tim-4 as a phosphatidylserine receptor. *Nature*, 450: 435-439. 2007

## 分子腫瘍学 (Molecular Oncology)

C. Takahashi, B. Contreras, T. Iwanaga, Y. Takegami, A. Bakker, R. T. Bronson, M. Noda, M. Loda, J. L. Hunt and M. E. Ewen: N-ras loss induces metastatic conversion of Rb-deficient neuroendocrine thyroid tumor. *Nature Genetics* 38, 118-123 (2006)

M. Ihara, N. Yamasaki, A. Hagiwara, A. Tanigaki, A. Kitano, R. Hikawa, H. Tomimoto, M. Noda, M. Takanashi, H. Mori, N. Hattori, T. Miyakawa, M. Kinoshita: Sept4, a component of presynaptic scaffold and Lewy bodies, is required for the suppression of  $\alpha$ -synuclein neurotoxicity. *Neuron* 53, 519-533 (2007)

T. Muraguchi, Y. Takegami, T. Ohtsuka, S. Kitajima, A. Omura, E. P. S. Chandana, T. Miki, R. Takahashi, N. Matsumoto, A. Ludwig, M. Noda and C. Takahashi. RECK modulates Notch signaling during cortical neurogenesis by regulating ADAM10 activity. *Nature Neurosci.* 10, 838-845 (2007)

S. Kawashima, Y. Imamura, E. P. S. Chandana, T. Noda, R. Takahashi, E. Adachi, C. Takahashi and M. Noda. Localization of the membrane-anchored MMP-regulator RECK at the neuromuscular junctions. *J. Neurochem.* 104, 376-385 (2007)

Y. Morioka, J. Monypenny, T. Matsuzaki, S. Shi, D. B. Alexander, H. Kitayama and M. Noda: The membrane-anchored metalloproteinase regulator RECK stabilizes focal adhesions and anterior-posterior polarity in fibroblasts. *Oncogene*, in press

## 分子遺伝学 (Molecular Genetics)

Shinohara T, Kato M, Takehashi M, Lee J, Chuma S, Nakatsuji N, Kanatsu-Shinohara M, Hirabayashi M (2006) Rats produced by interspecies spermatogonial transplantation in mice and in vitro microinsemination. *Proc Natl Acad Sci U S A*, 103(37):13624-8.

Kanatsu-Shinohara M and Shinohara T (2007) Culture and genetic modification of mouse germline stem cells. *Ann N Y Acad Sci*, 1120:59-71.

Takehashi M, Kanatsu-Shinohara M, Miki H, Lee J, Kazuki Y, Inoue K, Ogonuki N, Toyokuni S, Oshimura M, Ogura A, and Shinohara T (2007) Production of knockout mice by gene targeting in multipotent germline stem cells. *Dev Biol*, 312(1):344-352.

Honda A, Hirose M, Hara K, Matoba S, Inoue K, Miki H, Hiura H, Kanatsu-Shinohara M, Kanai Y, Kono T, Shinohara T, and Ogura A (2007) Isolation, characterization, and in vitro and in vivo differentiation of putative thecal stem cells. *Proc Natl Acad Sci U S A*, 104(30):12389-12394.

Baba S, Heike T, Umeda K, Iwasa T, Kaichi S, Hiraumi Y, Doi H, Yoshimoto M, Kanatsu-Shinohara M, Shinohara T, and Nakahata T (2007) Generation of cardiac and endothelial cells from neonatal mouse testis-derived multipotent germline stem cells. *Stem Cells*, 25(6):1375-83.

Lee J, Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Toyokuni S, Kimura T, Nakano T, Ogura A, and Shinohara T (2007) Akt mediates self-renewal division of mouse spermatogonial stem cells. *Development*, 134(10):1853-9.

Takehashi M, Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Toyokuni S, Ogura A, and Shinohara T (2007) Adenovirus-mediated gene delivery into mouse spermatogonial stem cells. *Proc Natl Acad Sci U S A*, 104(8):2596-601.

Kurosaki H, Kazuki Y, Hiratsuka M, Inoue T, Matsui Y, Wang CC, Kanatsu-Shinohara M, Shinohara T, Toda T, and Oshimura M A comparison study in the proteomic signatures of multipotent germline stem cells, embryonic stem cells, and germline stem cells. (2007) *Biochem Biophys Res Commun*, 353(2):259-67.

Kanatsu-Shinohara M, Inoue K, Ogonuki N, Miki H, Yoshida S, Toyokuni S, Lee J, Ogura A, and Shinohara T. (2007) Leukemia inhibitory factor enhances formation of germ cell colonies in neonatal mouse testis culture. *Biol Reprod*, 76(1):55-62.

Fujino RS, Ishikawa Y, Tanaka K, Kanatsu-Shinohara M, Tamura K, Kogo H, Shinohara T, and Hara T (2007) Capillary morphogenesis gene (CMG)-1 is among the genes differentially expressed in mouse male germ line stem cells and embryonic stem cells. *Mol Reprod Dev*, 73(8):955-66.

Imamura M, Miura K, Iwabuchi K, Ichisaka T, Nakagawa M, Lee J, Kanatsu-Shinohara M, Shinohara T, and Yamanaka S (2007) Transcriptional repression and DNA hypermethylation of a small set of ES cell marker genes in male germline stem cells. *BMC Dev Biol*, 6:34.

Kanatsu-Shinohara M, Inoue K, Miki H, Ogonuki N, Takehashi M, Morimoto T, Ogura A, and Shinohara T (2007) Clonal origin of germ cell

colonies after spermatogonial transplantation in mice. *Biol Reprod*, 75(1):68-74.

Kanatsu-Shinohara M and Shinohara T (2007) The germ of pluripotency. *Nat Biotechnol*, 24(6):663-4.

Kanatsu-Shinohara M, Ikawa M, Takehashi M, Ogonuki N, Miki H, Inoue K, Kazuki Y, Lee J, Toyokuni S, Oshimura M, Ogura A, and Shinohara T (2007) Production of knockout mice by random or targeted mutagenesis in spermatogonial stem cells. *Proc Natl Acad Sci U S A*, 103(21):8018-23.

Kanatsu-Shinohara M, Inoue K, Lee J, Miki H, Ogonuki N, Toyokuni S, Ogura A, and Shinohara T (2007) Anchorage-independent growth of mouse male germline stem cells in vitro. *Biol Reprod*, 74(3):522-9.

## 高次脳形態学 (Morphological Brain Science)

Nakamura K, Yamashita Y, Tamamaki N, Katoh H, Kaneko T, Negishi M (2006) In vivo function of Rnd2 in the development of neocortical pyramidal neurons. *Neurosci Res*, 54(2):149-53.

Pang Y-W, Li J-L, Nakamura Ko, Wu S, Kaneko T, Mizuno N (2006) Expression of vesicular glutamate transporter VGLUT1 immunoreactivity in peripheral and central endings of trigeminal mesencephalic nucleus neurons in the rat. *J Comp Neurol*, 498(1):129-41.

Li J-L, Xiong K, Pang Y-W, Dong Y, Kaneko T, Mizuno N (2006) Medullary dorsal horn neurons providing axons both to the parabrachial nucleus and the thalamus. *J Comp Neurol*, 498(4):539-551.

Fujiyama F, Unzai T, Nakamura Ko, Nomura S, Kaneko T (2006) Difference in organization of corticostriatal and thalamostriatal synapses between patch and matrix compartments of rat neostriatum. *Eur J Neurosci*, 24(10):2813-1824.

Kuramoto E, Fujiyama F, Unzai T, Nakamura Ko, Hioki H, Furuta T, Shigemoto R, Ferraguti F, Kaneko T (2006) Metabotropic glutamate receptor 4-immunopositive terminals of medium-sized spiny neurons selectively form synapses with cholinergic interneurons in the rat neostriatum. *J Comp Neurol*, 500(5):908-922.

Ohira K, Funatsu N, Homma KJ, Sahara Y, Hayashi M, Kaneko T, Nakamura S (2007) Truncated TrkB-T1 regulates the morphology of neocortical layer I astrocytes in adult rat brain slices. *Eur J Neurosci*, 25(2):406-416.

Ito T, Hioki H, Nakamura Ko, Tanaka Y, Nakade H, Kaneko T, Iino S, Nojyo Y (2007) GABA-containing sympathetic preganglionic neurons in rat thoracic spinal cord send their axons to the superior cervical ganglion. *J Comp Neurol*, 502(1):113-125.

Hioki H, Kameda H, Nakamura H, Okunomiya T, Ohira K, Nakamura Ko, Kuroda M, Furuta T, Kaneko T (2007) Efficient gene transduction of neurons by lentivirus with enhanced neuron-specific promoters. *Gene Therapy*, 14 (11):872-882.

Nakamura Ko, Watakabe A, Hioki H, Fujiyama F, Tanaka Y, Yamamori T, Kaneko T (2007) Transiently increased colocalization of vesicular glutamate transporters 1 and 2 at single axon terminals during postnatal development of mouse neocortex: a quantitative analysis with correlation coefficient. *Eur J Neurosci*, 26(8):3054-3067.

Sonomura T, Nakamura Ko, Furuta T, Hioki H, Nishi A, Yamanaka A, Uemura M, Kaneko T (2007) Expression of D1 but not D2 dopamine receptors in striatal neurons producing neurokinin B. *Eur J Neurosci*, 26(8):3093-3103.

## 認知行動脳科学 (Integrative Brain Science)

Miura, K., Matsuura, K., Taki, M., Tabata, H., Inaba, N., Kawano, K., Miles, F.A. The visual motion detectors underlying ocular following responses in monkeys. *Vision Res.*, 46: 869-878, 2006.

Tabata H, Miura K, Taki M, Matsuura K, Kawano K. Preparatory gain modulation of visuomotor transmission for smooth pursuit eye movements in monkeys. *J. Neurophysiol.* 96: 3051-3063, 2006.

Inaba N., Shinomoto S., Yamane S., Takemura A., Kawano K. MST neurons code for visual motion in space independent of pursuit eye movements. *J. Neurophysiol.* 97: 3473-3483, 2007.

## 神経・細胞薬理学 (Cell Pharmacology)

Honda T, Segi-Nishida E, Miyachi Y, Narumiya S (2006) Prostacyclin-IP signaling and prostaglandin E2-EP2/EP4 signaling both mediate joint inflammation in mouse collagen-induced arthritis. *J Exp Med* 203: 325-335.

Kitaoka S, Furuyashiki T, Nishi A, Shuto T, Koyasu S, Matsuoka T, Miyasaka M, Greengard P, and Narumiya S (2007) Prostaglandin E2 acts on EP1 receptor and amplifies both dopamine D1 and D2 receptor signaling in the striatum. *J Neurosci*, 27: 12900-12907.

Nagamachi M, Sakata D, Kabashima K, Furuyashiki T, Murata T, Segi-Nishida E, Soontrapa K, Matsuoka T, Miyachi Y, Narumiya S (2007) Facilitation of Th1-mediated immune response by prostaglandin E receptor EP1. *J Exp Med* 204: 2865-2874.

Matsuoka T, Narumiya S (2007) Prostaglandin receptor signaling in disease. *Scientific World Journal* 7: 1329-1347.

Sakata D, Taniguchi H, Yasuda S, Adachi-Morishima A, Hamazaki Y, Nakayama R, Miki T, Minato N, Narumiya S (2007) Impaired T lymphocyte trafficking in mice deficient in an actin-nucleating protein, mDial1. *J Exp Med* 204: 2031-2038.

Kabashima K, Nagamachi M, Honda T, Nishigori C, Miyachi Y, Tokura Y, Narumiya S (2007) *Lab Invest* 87 : 49-55.

## 附属動物実験施設 (Institute of Laboratory Animals)

Mashimo T, Voigt B, Tsurumi T, Naoi K, Nakanishi S, Yamasaki K, Kuramoto T, and Serikawa T (2006) A set of highly informative rat simple sequence length polymorphism (SSLP) markers and genetically defined rat strains. *BMC Genetics* 7: 19

Gohma H, Kuramoto T, Kuwamura M, Okajima R, Tanimoto N, Yamasaki K, Nakanishi S, Kitada K, Makiyama T, Akao M, Kita T, Sasa M, and Serikawa T (2006) WTC deafness Kyoto (dfk): a rat model for extensive investigations of Kcnq1 functions. *Physiol Genomics* 24(3):198-206

Mori M, Li G, Abe I, Nakayama J, Guo Z, Sawashita J, Ugawa T, Nishizono S, Serikawa T, Higuchi K, and Shumiya S. (2006) Lanosterol synthase mutations cause cholesterol deficiency-associated cataracts in the Shumiya cataract rat. *J Clin Invest* 116: 395-404

芹川忠夫 (2006) ラットゲノムシーケンス、比較ゲノム、そしてラットモデルの応用 *実験動物ニュース* 55(1): 4-8.

芹川忠夫 (2006) 連載 使ってみよう! バイオリソース大集合 第2回 ラット: ラットリソースとユニークな研究 *細胞工学* 25(12):1456-1459

芹川忠夫 (2006) まるごと生き物大特集: バイオリソースプロジェクト「ラット」 *遺伝* 60(5): 18-19

真下知士, Birger Voigt, 直井国子, 山崎賢一, 中西聡, 庫本高志, 芹川忠夫 (2006) ラットフェノームプロジェクト: NBRP-Rat に寄託されたラット系統の体系的特性評価 SHR 等疾患モデル共同研究会 *News Letter* No. 21

Tanaka K, Shirakawa H, Okada K, Konno M, Nakagawa T, Serikawa T, Kaneko S. (2007) Increased Ca<sup>2+</sup> channel currents in cerebellar Purkinje cells of the ataxic groggy rat. *Neurosci Lett.* 426(2):75-80

Yan HD, Ishihara K, Hanaya R, Kurisu K, Serikawa T, Sasa M. (2007) Voltage-dependent calcium channel abnormalities in hippocampal CA3 neurons of spontaneously epileptic rats. *Epilepsia.* 48(4):758-764

Gohma H, Kuramoto T, Matalon R, Surendran S, Tyring S, Kitada K, Sasa M, and Serikawa T. (2007) Absence-like and tonic seizures in Aspartoacylase/Attractin double-mutant mice. *Exp Anim* 56(2): 161-165

Tokuda S, Kuramoto T, Tanaka T, Kaneko S, Takeuchi IK, Sasa M, and Serikawa T (2007) The ataxic groggy rat has a missense mutation in the P/Q-type voltage gated Ca<sup>2+</sup> channel  $\alpha$ 1A subunit gene and exhibits absence seizures. *Brain Res* 1133(1): 168-177.

Kashiwazaki N, Seita Y, Naoi K, Takizawa A, Kuramoto T, and Serikawa T (2007) Generation of rat offspring derived from cryopreserved spermatozoa in Japanese National Bioresources *Reprod Fertil Dev.* 19(1):124-125.

芹川忠夫 (2007) 疾患モデルラットバイオリソース *脳神経外科速報* 第17巻11号 1312-1319

芹川忠夫, 日置恭司 (2007) シンポジウム「ラット生殖技術の進歩」の企画にあたって *実験動物技術* 第42巻1号 33-34

滝澤明子, Birger Voigt, 鶴見東志子, 真下知士, 庫本高志, 芹川忠夫 (2007) NBRP-Rat の概要とラット胚・精子の保存状況 *実験動物技術* 第42巻1号 35-40

庫本高志 (2007) 応用編 1. 遺伝子検査の技術 G. 動物の遺伝子解析 遺伝子検査技術—遺伝子分析科学認定士テキスト— pp176-177 日本臨床検査同学院遺伝子分析科学認定士制度委員会編 宇宙堂八木書店

## 先端技術センター(Frontier Technology Center)

Arron, JR., Winslow, MM., Polleri, A., Chang, C., Neilson, JR., Wu, H., Chen, L., Heit, JJ., Kim, SK., Yamasaki, N., Miyakawa, T., Francke, U., Graef, IA., and Crabtree, GR., NFAT dysregulation by increased dosage of DSCR1 and DYRK1A on chromosome 21, *Nature* 441 (7093): 595-600 (2006). (IF 26.681)

Powell, CM., Miyakawa, T., Schizophrenia-Relevant Behavioral Testing in Rodent Models: A Uniquely Human Disorder?, *Biological Psychiatry*, 59: 1198-1207 (2006). (IF 7.154)

Takao, K., Miyakawa, T., Investigating Gene-to-Behavior Pathways in Psychiatric Disorders: The Use of a Comprehensive Behavioral Test Battery on Genetically Engineered Mice, *Annals of the New York Academy of Science*, 1086: 144-159 (2006).

Takao K, Miyakawa T. Light/dark transition test for mice. *Journal of Visualized Experiments*, (1):104 (2006)

宮川 剛, 高雄 啓三, 遺伝子と行動, 「改訂第2版 脳神経科学イラストレイテッド」, 森 寿, 真鍋 俊也, 渡辺 雅彦, 岡野 栄之, 宮川 剛編. 羊土社, 267-274 (2006)

山崎信幸, 高雄啓三, 宮川 剛, 遺伝子操作動物と精神障害のモデル. *月刊精神科* 8(3):209-213 (2006)

高雄 啓三, 山崎 信幸, 宮川 剛, 精神疾患のモデルマウス. *実験医学増刊号* 24(15):2300-2307 (2006)

高雄 啓三, 山崎 信幸, 宮川 剛, 精神疾患・発達障害のモデルマウス. *神経研究の進歩*, 50(5):673-682 (2006)

Ihara, M., Yamasaki, N., Hagiwara, A., Tanigaki, A., Kitano, A., Hikawa, R., Tomimoto H., Noda, M., Takanashi, M., Mori, H., Hattori, N., Miyakawa, T., Kinoshita, M., Sept4, a component of presynaptic scaffold and lewy bodies, is required for the suppression of  $\alpha$ -synuclein neurotoxicity. *Neuron* 53(4): 519-533 (2007). (IF 29.194)

Hattori, S., Hashimoto, R., Miyakawa, T., Yamanaka, H., Maeno, H., Wada, K., Kunugi, H., Enriched environments influence depression-related behavior in adult mice and the survival of newborn cells in their hippocampi, *Behavioural Brain Research* 180(1): 69-76 (2007).

Shibata, M., Yamasaki, N., Miyakawa, T., Ohtani, R., Ihara, M., Takahashi, R., and Tomimoto, H., Selective impairment of working memory in a mouse model of chronic cerebral hypoperfusion. *Stroke* 38 (10): 2826-32 (2007). (IF 5.391)



Niemann, S., Kanki, H., Fukui, Y., Takao, K., Fukaya, M., Hynynen, MN., Churchill, MJ., Shefner, JM., Bronson, RT., Watanabe, M., Brown, RH, Jr., Miyakawa, T., Itohar, S., Hayashi, Y., Genetic ablation of NMDA receptor subunit NR3B in mouse reveals motoneuronal and non-motoneuronal phenotypes. *European Journal of Neuroscience* 26 (6): 1407-1420 (2007).

Ogawa, M., Miyakawa, T., Nakamura, K., Kitano, J., Furushima, K., Kiyonari, H., Nakayama, R., Nakao, K., Moriyoshi, K., Nakanishi, S., Altered sensitivities to morphine and cocaine in scaffold protein tamalin knockout mice, *Proc Natl Acad Sci U S A* 104 (37): 14789-94 (2007). (IF 9.643)

Aiba, A., Inokuchi K., Ishida Y., Itohar, S., Kobayashi, K., Masu, M., Mishina, M., Miyakawa, T., Mori, H., Nakao, K., Obata, Y., Sakimura, K., Shiroishi, T., Wada, K., Yagi, T., Mouse liaison for integrative brain research, *Neuroscience Research*, 58(2): 103-104 (2007).

Takao K, Yamasaki N, Miyakawa, T., "Impact of brain-behavior phenotyping of genetically-engineered mice on research of neuropsychiatric disorders., *Neuroscience Research*, 58(2):124-32 (2007).

高雄 啓三, 山崎 信幸, 宮川 剛, 「遺伝子改変マウスの表現型解析を起点とした精神疾患の研究」脳 21, 10(1):9-17 (2007)

高雄 啓三, 山崎 信幸, 宮川 剛, 「遺伝子改変マウスの表現型解析を起点とした精神疾患の研究」ゲノムを医学する-第 30 回阿蘇シンポジウム記録 2006- 南山堂 49-60 (2007)

山崎 信幸, 高雄 啓三, 宮川 剛, 「精神疾患のマウスモデル」実験医学増刊 脳神経疾患の分子病態と治療への展開 アルツハイマー病、パーキンソン病、発達障害、精神疾患などの発症メカニズムを分子から解く Vol. 25, No. 13, 205-213 (2007)

常川 直子, 高雄 啓三, 宮川 剛, 「カルシニューリン関連遺伝子と統合失調症」分子精神医学 Vol. 7, No. 4, 362-370 (2007)

## 内分泌・代謝内科学 (Medicine and Clinical Science)

Fujikura J, Hosoda K, Iwakura H, Tomita T, Noguchi M, Masuzaki H, Tanigaki K, Yabe D, Honjo T, Nakao K. Notch/Rbp-j signaling prevents premature endocrine and ductal cell differentiation in the pancreas. *Cell Metab.*2006;3:59-65.

Makino H, Miyamoto Y, Sawai K, Mori K, Mukoyama M, Nakao K, Yoshimasa Y, Suga S. Altered gene expression related to glomerulogenesis and podocyte structure in early diabetic nephropathy of db/db mice and its restoration by pioglitazone. *Diabetes.*2006;55:2747-2756.

Makino H, Mukoyama M, Mori K, Suganami T, Kasahara M, Yahata K, Nagae T, Yokoi H, Sawai K, Ogawa Y, Suga S, Yoshimasa Y, Sugawara A, Tanaka I, Nakao K. Transgenic overexpression of brain natriuretic peptide prevents the progression of diabetic nephropathy in mice. *Diabetologia.*2006;49:2514-2524.

Miyashita K, Itoh H, Arai H, Suganami T, Sawada N, Fukunaga Y, Sone M, Yamahara K, Yurugi-Kobayashi T, Park K, Oyamada N, Sawada N, Taura D, Tsujimoto H, Chao TH, Tamura N, Mukoyama M, Nakao K. The neuroprotective and vasculo-neuro-regenerative roles of adrenomedullin in ischemic brain and its therapeutic potential. *Endocrinology.*2006;147:1642-1653.

Nakagawa Y, Kuwahara K, Harada M, Takahashi N, Yasuno S, Adachi Y, Kawakami R, Nakanishi M, Tanimoto K, Usami S, Kinoshita H, Saito Y, Nakao K. Class II HDACs mediate CaMK-dependent signaling to NRSF in ventricular myocytes. *J Mol Cell Cardiol.*2006;41:1010-1022.

Tomita T, Masuzaki H, Iwakura H, Fujikura J, Noguchi M, Tanaka T, Ebihara K, Kawamura J, Komoto I, Kawaguchi Y, Fujimoto K, Doi R, Shimada Y, Hosoda K, Imamura M, Nakao K. Expression of the gene for a membrane-bound fatty acid receptor in the pancreas and islet cell tumours in humans: evidence for GPR40 expression in pancreatic beta cells and implications for insulin secretion. *Diabetologia.*2006;49:962-968.

Tanaka T, Masuzaki H, Yasue S, Ebihara K, Shiuchi T, Ishii T, Arai N, Hirata M, Yamamoto H, Hayashi T, Hosoda K, Minokoshi Y, Nakao K. Central melanocortin signaling restores skeletal muscle AMP-activated protein kinase phosphorylation in mice fed a high-fat diet. *Cell Metab.*2007;5:395-402.

Fujikura J, Hosoda K, Kawaguchi Y, Noguchi M, Iwakura H, Odori S, Mori E, Tomita T, Hirata M, Ebihara K, Masuzaki H, Fukuda A, Furuyama K, Tanigaki K, Yabe D, Nakao K. Rbp-j regulates expansion of pancreatic epithelial cells and their differentiation into exocrine cells during mouse development. *Dev Dyn.*2007;236:2779-2791.

Miyamoto L, Toyoda T, Hayashi T, Yonemitsu S, Nakano M, Tanaka S, Ebihara K, Masuzaki H, Hosoda K, Ogawa Y, Inoue G, Fushiki T, Nakao K. Effect of acute activation of 5'-AMP-activated protein kinase on glycogen regulation in isolated rat skeletal muscle. *J Appl Physiol.*2007;102:1007-1013.

Nakanishi M, Harada M, Kishimoto I, Kuwahara K, Kawakami R, Nakagawa Y, Yasuno S, Usami S, Kinoshita H, Adachi Y, Fukamizu A, Saito Y, Nakao K. Genetic disruption of angiotensin II type 1a receptor improves long-term survival of mice with chronic severe aortic regurgitation. *Circ J.*2007;71:1310-1316.

Noguchi M, Hosoda K, Fujikura J, Fujimoto M, Iwakura H, Tomita T, Ishii T, Arai N, Hirata M, Ebihara K, Masuzaki H, Itoh H, Narumiya S, Nakao K. Genetic and pharmacological inhibition of Rho-associated kinase II enhances adipogenesis. *J Biol Chem.*2007;282:29574-29583.

Sone M, Itoh H, Yamahara K, Yamashita JK, Yurugi-Kobayashi T, Nonoguchi A, Suzuki Y, Chao TH, Sawada N, Fukunaga Y, Miyashita K, Park K, Oyamada N, Sawada N, Taura D, Tamura N, Kondo Y, Nito S, Suemori H, Nakatsuji N, Nishikawa S, Nakao K. Pathway for differentiation of human embryonic stem cells to vascular cell components and their potential for vascular regeneration. *Arterioscler Thromb Vasc Biol.*2007;27:2127-2134.

## 循環器内科学 (Cardiovascular Medicine)

Kawamoto T, Kita T, Tanaka M (2006) Endothelin-1 activates Homer 1 alpha expression via mitogen-activated protein kinase in cardiac myocytes. *Int J mol Med.* 2006 Jul;18(1):193-6

Togi K, Kita T, Tanaka M (2006) Essential role of Hand2 in interventricular septum formation and trabeculation during cardiac development. *Biochem Biophys Res Commun.* 2006 Apr 28;343(1):144-51

Yoshida Y, Kita T, Tanaka M (2007) CCN1 protects cardiac myocytes from oxidative stress via beta 1 integrin-Akt pathway. *Biochem Biophys Res Commun.* 2007 Apr 13;355(3):611-8

Hirokazu Mitsuoka, Noriaki Kume, Kazutaka Hayashida, Atsuko Inui- Hayashiada, Yo Aramaki, Masako Toyohara, Toshikazu Jinnai, Eiichiro Nishi, Toru Kita Interleukin 18 stimulates release of soluble lectin- like oxidized LDL receptor-1 (sLOX-1), *sAtherosclerosis* 2008 in press

Hirai M, Horiguchi M, Ohbayashi T, Kita T, Chien KR, Nakamura T (2007) Latent TGF- $\beta$  binding protein 2 binds to DANCE/fibulin-5 and regulates elastic fiber assembly. *EMBO J*, 26: 3283-3295. (Hirai and Horiguchi contributed equally)

Hirai M, Ohbayashi T, Horiguchi M, Okawa K, Hagiwara A, Kita T, Chien KR, Nakamura T (2007) Fibulin-5/DANCE has an elastogenic organizer activity that is abrogated by proteolytic cleavage in vivo. *J Cell Biol*, 176: 1061-1071.

## 消化器内科学 (Gastroenterology and Hepatology)

Fukuda A, Kawaguchi Y, Furuyama K, Kodama S, Horiguchi M, Kuhara T, Koizumi M, Boyer DF, Fujimoto K, Doi R, Kageyama R, Wright CV, Chiba T: Ectopic pancreas formation in Hes1-knockout mice reveals plasticity of endodermal progenitors of the gut, bile duct, and pancreas. *J Clin Invest* 116:1484-1493:2006.

Fukui T, Nishio A, Okazaki K, Uza N, Ueno S, Kido M, Inoue S, Kitamura H, Kiriya K, Ohashi S, Asada M, Tamaki H, Matsuura M, Kawasaki K, Suzuki K, Uchida K, Fukui H, Nakase H, Watanabe N, Chiba T: Gastric mucosal hyperplasia via up-regulation of gastrin induced by persistent activation of gastric innate immunity in MHC class II-deficient mice. *Gut* 55:607-615:2006.

Kanda N, Seno H, Kawada M, Sawabu T, Uenoyama T, Nakajima T, Konda Y, Fukui H, Takeuchi T, Chiba T: Involvement of cyclooxygenase-2 in gastric mucosal hypertrophy in gastrin transgenic mice. *Am J Physiol Gastrointest Liver Physiol* 290:G519-527:2006.

Fukuda A, Kawaguchi Y, Furuyama K, Kodama S, Kuhara T, Horiguchi M, Koizumi M, Fujimoto K, Doi R, Wright CVE, Chiba T: Loss of the major duodenal papilla results in brown pigment biliary stone formation in pdx1 null mice. *Gastroenterology* 130:855-867:2006.

Ohashi S, Nishio A, Nakamura H, Kido M, Ueno M, Uza N, Inoue S, Kitamura H, Kiriya K, Asada M, Tamaki H, Matsuura M, Kawasaki K, Fukui T, Watanabe N, Nakase H, Yodoi J, Okazaki K, Chiba T: Protective roles of redox-active protein thioredoxin-1 for severe acute pancreatitis. *Am J Physiol Gastrointest Liver Physiol* 290:G772-781:2006.

Ohashi S, Nishio A, Nakase H, Nakamura H, Asada M, Tamaki H, Kasawaki K, Fukui T, Yodoi J, Chiba T: Overexpression of redox-active protein thioredoxin-1 prevents development of chronic pancreatitis in mice. *Antioxid Redox Signal* 8(9-10):1835-1845:2006.

Tamaki H, Nakamura H, Nishio A, Nakase H, Ueno S, Uza N, Kido M, Inoue S, Mikami S, Asada M, Kiriya K, Kitamura H, Ohashi S, Fukui T, Kawasaki K, Matsuura M, Ishii Y, Okazaki K, Yodoi J, Chiba T: Human Thioredoxin-1 Ameliorates Experimental Murine Colitis in Association with Suppressed MIF Production. *Gastroenterology* 131:1110-1121:2006.

Kiriya K, Watanabe N, Nishio A, Okazaki K, Kido M, Saga K, Tanaka J, Akamatsu T, Ohashi S, Asada M, Fukui T, Chiba T, Essential role of Peyer's patches in the development of Helicobacter-induced gastritis. *Int Immunol* 19:435-446:2007.

Matsumoto Y, Marusawa H, Kinoshita K, Endo Y, Kou T, Morisawa T, Azuma T, Okazaki IM, Honjo T, Chiba T: Helicobacter pylori infection triggers aberrant expression of activation-induced cytidine deaminase in gastric epithelium. *Nat Med* 13:470-476:2007.

Watanabe T, Katsukura H, Chiba T, Kita T, Wakatsuki Y: Periportal and sinusoidal liver dendritic cell-suppressing T helper type 1-mediated hepatitis. *Gut* 56:1445-1451:2007.

Fukui T, Nishio A, Okazaki K, Kasahara K, Saga K, Tanaka J, Uza N, Ueno S, Kido M, Ohashi S, Asada M, Nakase H, Watanabe N, Chiba T: Cross-Primed CD8(+) Cytotoxic T cells Induce Severe Helicobacter-associated Gastritis in the Absence of CD4(+) T cells. *Helicobacter* 12:486-497:2007.

## 臨床免疫学 (Rheumatology and Clinical Immunology)

Yoshifuji H, Fujii T, Kobayashi S, Imura Y, Fujita Y, Kawabata D, Usui T, Tanaka M, Nagai S, Umehara H, Mimori T (2006) Anti-aminoacyl-tRNA synthetase antibodies in clinical course prediction of interstitial lung disease complicated with idiopathic inflammatory myopathies. *Autoimmunity*, 39: 233-241.

川端大介 (2006) 関節リウマチにおける病因的自己抗体 抗ホリスタチン関連蛋白抗体 分子リウマチ, 3:15-20.

大村浩一郎 (2006) マウスにおける IL-1 $\cdot$  の関与 臨床免疫, 45: 70-74

藤井 隆夫 (2007) 全身性リウマチ性疾患における T 細胞ワクチネーション. 自己免疫疾患の免疫療法との作用機序. 臨床免疫・アレルギー科, 48: 471-475.

藤井 隆夫 (2007) 全身性リウマチ性疾患における T 細胞ワクチネーションとペプチド療法. Annual Review 免疫 2008, pp265-272, 奥村 康、平野 俊夫、佐藤 昇志 監修、中外医学社、東京.

井村嘉孝, 三森経世: 強皮症に見出される tRNA 関連抗 Wa 抗体とその抗原蛋白 NEFA/Nucleobindin-2, 日本臨床免疫学会誌 30(3):151-155, 2007

## 加齢医学 (Geriatric Medicine)

- Tomohiro W, Hiroaki K, Tsutomu C, Toru K and Yoshio W(2006)Nucleotide Binding Oligomerization Domain 2 Deficiency Leads to Dysregulated TLR2 Signaling and Induction of Antigen-Specific Colitis. *Immunity* 25,473-485, September 2006
- Suzuki Y, Akishita M, Arai H, Teramoto S, Morimoto S, Toba K. Multiple consultations and polypharmacy of patients attending geriatric outpatient units of university hospitals. *Geriatr Gerontol Int.* 6: 244-247, 2006
- Zhuge X, Arai H, Xu Y, Murayama T, Kobayashi T, Narumiya S, Kita T, and Yokode M. Protection of atherosclerosis in thromboxane A2 receptor-deficient mice is not associated with thromboxane A2 receptor in bone marrow-derived cells. *Biochemical and Biophysical Research Communications.* 351: 865-871, 2006.
- Shibata Y, Kume N, Arai H, Hayashida K, Inui-Hayashida A, Minami M, Mukai E, Toyohara M, Harauma A, Murayama T, Kita T, Hara S, Kamei K, and Yokode M. Mulberry leaf aqueous fractions inhibit TNF- $\alpha$ -induced nuclear factor- $\kappa$ B (NF- $\kappa$ B) activation and lectin-like oxidized LDL receptor-1 (LOX-1) expression in vascular endothelial cells. *Atherosclerosis*, 193:20-27, 2007.
- Mima A, Matsubara T, Arai H, Abe H, Nagai K, Kanamori H, Sumi E, Takahashi T, Iehara N, Fukatsu A, Kita T, and Doi T. Angiotensin II-dependent Src and Smad1 signaling pathway is crucial for the development of diabetic nephropathy. *Lab Invest*, 86: 927-939, 2006.
- Arai H, Yamamoto A, Matsuzawa Y, Saito Y, Yamada N, Oikawa S, Mabuchi H, Teramoto T, Sasaki J, Nakaya N, Itakura H, Ishikawa Y, Ouchi Y, Horibe H, Shirahashi N, and Kita T. Prevalence of the Metabolic Syndrome in the General Japanese Population in 2000. *J Arteriosclerosis Thrombosis*, 13: 202-208, 2006.
- Matsubara T, Abe H, Arai H, Nagai K, Mima A, Kanamori H, Sumi E, Takahashi T, Matsuura M, Iehara N, Fukatsu A, Kita T, and Doi T. Expression of Smad1 is directly associated with mesangial matrix expansion in rat diabetic nephropathy. *Lab Invest*, 86: 357-368, 2006
- Sumi E, Takechi H, Wada T, Ishine M, Wakatsuki Y, Murayama T, Yokode M, Tanaka M, Kita T, Matsubayashi K, and Arai H. Comprehensive geriatric assessment for outpatients is important for the detection of functional disabilities and depressive symptoms associated with sensory impairment as well as for the screening of cognitive impairment. *Geriatr Gerontol Int*, 6: 94-100, 2006
- Arai H, Takechi H, Wada T, Ishine M, Wakatsuki Y, Horiuchi H, Murayama T, Yokode M, Tanaka M, Kita T, Matsubayashi K, and Kume N. Usefulness of measuring serum markers in addition to comprehensive geriatric assessment for cognitive impairment and depressive mood in the elderly. *Geriatr Gerontol Int*, 6: 7-14, 2006
- Kawamoto T, Kita T, Tanaka M (2006) Endothelin-1 activates Homer 1 alpha expression via mitogen-activated protein kinase in cardiac myocytes. *Int J mol Med.* 2006 Jul;18(1):193-6
- Togi K, Kita T, Tanaka M (2006) Essential role of Hand2 in interventricular septum formation and trabeculation during cardiac development. *Biochem Biophys Res Commun.* 2006 Apr 28;343(1):144-51
- Tomohiro W, Hiroaki K, Tsutomu C, Toru K and Yoshio W(2007) Periportal and sinusoidal liver dendritic cells suppressing T helper type 1-mediated hepatitis. *Gut* 2007;56:1445-1451
- Xu Y, Arai H, Murayama T, Kita T, and Yokode M. Hypercholesterolemia contributes to the development of atherosclerosis and vascular remodeling by recruiting bone marrow-derived cells in cuff-induced vascular injury. *Biochem Biophys Res Commun*, 363: 782-787, 2007.
- Kanamori H, Matsubara T, Mima A, Sumi E, Nagai K, Takahashi T, Abe H, Iehara N, Fukatsu A, Okamoto H, Kita T, Doi T, Arai H. Inhibition of MCP-1/CCR2 pathway ameliorates the development of diabetic nephropathy. *Biochem Biophys Res Commun.* 360: 772-777, 2007
- Inada A, Arai H, Nagai K, Miyazaki J, Nomura K, Kanamori H, Yamada Y, Akashi K, Weir GC, Seino Y, Fukatsu A Gender Difference In ICER In Transgenic Diabetic Mouse. *Bioscience, Biotechnology, and Biochemistry*, 71: 1920-1926, 2007
- Harauma A, Murayama T, Ikeyama K, Sano H, Arai H, Takano R, Kita T, Hara S, Kamei K, Yokode M. Mulberry Leaf Powder Prevents Atherosclerosis in Apolipoprotein E-Deficient Mice. *Biochem Biophys Res Commun.* 358: 751-756, 2007
- Arai H, Yamamoto A, Matsuzawa Y, Saito Y, Yamada N, Oikawa S, Mabuchi H, Teramoto T, Sasaki J, Nakaya N, Itakura H, Ishikawa Y, Ouchi Y, Horibe H, Egashira T, Hattori H, Shirahashi N, and Kita T. Polymorphisms of apolipoprotein E and methylenetetrahydrofolate reductase in the Japanese population. *J Arterioscler Thromb*, 14: 167-171, 2007
- Sumi E, Iehara N, Akiyama H, Matsubara T, Mima A, Kanamori H, Fukatsu A, Salant DJ, Kita T, Arai H and Doi T. SOX9 regulates the expression of Col4a2 through transactivating its enhancer element in mesangial cells. *Am J Pathol*, 170: 1854-64, 2007.
- Nomura K, Liu N, Nagai K, Hasegawa T, Kobayashi I, Nogaki F, Tanaka M, Arai H, Fukatsu A, Kita T, Ono T Roles of coagulation pathway and factor Xa in rat mesangioproliferative glomerulonephritis. *Lab Invest.* 87: 150-160, 2007.
- Roriz-Cruz M, Rosset I, Wada T, Sakagami T, Ishine M, De Sa Roriz-Filho J, Cruz TR, Hosseinkhani M, Rodrigues RP, Sudoh S, Arai H, Wakatsuki Y, Souza AC, Nakagawa M, Kita T, Matsubayashi K. Cognitive impairment and frontal-subcortical geriatric syndrome are associated with metabolic syndrome in a stroke-free population. *Neurobiol Aging.* 2007 28:1723-36.
- Yoshida Y, Kita T, Tanaka M (2007) CCN1 protects cardiac myocytes from oxidative stress via beta 1 integrin-Akt pathway. *Biochem Biophys Res Commun.* 2007 Apr 13;355(3):611-8

## 糖尿病・栄養内科学 (Diabetes and Clinical Nutrition)

- Nabe, K., Fujimoto, S., Shimodahira, M., Kominato, R., Nishi, Y., Funakoshi, S., Mukai, E., Yamada, Y., Seino, Y., and Inagaki, N. (2006) Diphenylhydantoin Suppresses Glucose-Induced Insulin Release by Decreasing Cytoplasmic H<sup>+</sup> Concentration in Pancreatic Islets. *Endocrinology* 147:2717-2727
- Tsukiyama, K., Yamada, Y., Yamada, C., Harada, N., Kawasaki, Y., Ogura, M., Bessho, K., Li M, Amizuka N., Sato, M., Udagawa, N., Takahashi, N., Tanaka K., Oiso, Y., and Seino, Y. (2006) Gastric inhibitory polypeptide as an endogenous factor promoting new bone formation following food ingestion. *Mol. Endocrinol.* 20: 1644-1651

- Yamada, C., Nagashima, K., Takahashi, A., Ueno, H., Kawasaki, Y., Yamada, Y., Seino, Y., and Inagaki, N. (2006) Gatifloxacin acutely stimulates insulin secretion and chronically suppresses insulin biosynthesis. *Eur. J. Pharmacol.* 553:67-72
- Ikebukuro, K., Adachi, Y., Suzuki, Y., Iwasaki, M., Nakano, K., Koike, Y., Mukaide, H., Yamada, Y., Fujimoto, S., Seino, Y., Oyaizu, H., Shigematsu, A., Kiriyama, N., Hamada, Y., Kamiyama, Y., and Ikehara, S. (2006) Synergistic effects of injection of bone marrow cells into both portal vein and bone marrow on tolerance induction in transplantation of allogeneic pancreatic islets. *Bone Marrow Transplant.* 38:657-664
- Miura, T., Ueda, N., Yamada, K., Fukushima, M., Ishida, T., Kaneko, T., Matsuyama, F., and Seino, Y. (2006) Antidiabetic Effect of Corosolic Acid in KK-Ay Diabetic Mice. *Biol.Pharm.Bull.* 29:585-587
- Yamada, K., Hosokawa, M., Fujimoto, S., Nagashima, K., Fukuda, K., Fujiwara, H., Ogawa, E., Fujita, Y., Ueda, N., Matsuyama, F., Yamada, Y., Seino, Y., and Inagaki, N. (2007) The spontaneously diabetic Torii rat with gastroenteropathy. *Diabetes Res. Clin. Pract.* 75: 127-134
- Hamasaki, A., Yamada, Y., Kurose, T., Ban, N., Nagashima, K., Takahashi, A., Fujimoto, S., Shimono, D., Fujiwara, M., Toyokuni, S., Seino, Y., and Inagaki, N. (2007) Adult pancreatic islets require differential pax6 gene dosage. *Biochem. Biophys. Res. Commun.* 353: 40-46
- Ishizuka, N., Minami, K., Okumachi, A., Okuno, M., and Seino, S. (2007) Induction by NeuroD of the components required for regulated exocytosis. *Biochem. Biophys. Res. Commun.* 354: 271-277
- Mukai, E., Fujimoto, S., Sakurai, F., Kawabata, K., Yamashita, M., Inagaki, N., and Mizuguchi, H. (2007) Efficient gene transfer into murine pancreatic islets using adenovirus vectors. *J. Control Release* 119:136-141
- Fujimoto, S., Nabe, K., Takehiro, M., Shimodaira, M., Kajikawa, M., Takeda, T., Mukai, E., Inagaki, N., and Seino, Y. (2007) Impaired Metabolism-secretion coupling in pancreatic  $\beta$ -cells: Role of determinants of mitochondrial ATP production. *Diabetes Res. Clin. Pract.* 77:2-10
- Yamada, C., Yamada, Y., Tsukiyama, K., Yamada, K., Yamane, S., Harada, N., Miyawaki, K., Seino, Y., and Inagaki, N. (2007) Genetic inactivation of GIP signaling reverses aging-associated insulin resistance through body composition changes. *Biochem. Biophys. Res. Commun.* 364: 175-180.

## 発達小児科学 (Pediatrics)

- Shiota M, Heike T, Haruyama M, Baba S, Tsuchiya A, Fujino H, Kobayashi H, Umeda K, Yoshimoto M, Nakahata T: Isolation and characterization of bone marrow-derived mesenchymal progenitor cells with myogenic and neuronal properties. *Exp Cell Res.* 313:1008-1023,2007.
- Baba S, Heike T, Umeda K, Iwasa T, Kaichi S, Hiraumi T, Doi H, Yoshimoto M, Kanatsu-Shinohara M, Shinohara T, Nakahata T: Generation of Cardiac and Endothelial Cells from Neonatal Mouse Testis-Derived Multipotent Germline Stem Cells. *Stem Cells.* 25:1375-1383,2007.
- Tsuchiya A, Heike T, Baba S, Fujino H, Umeda K, Matsuda Y, Nomoto M, Ichida T, Aoyagi Y, Nakahata T: Long-term culture of postnatal mouse hepatic stem/progenitor cells and their relative development hierarchy. *Stem Cells.* 25:895-902,2007.
- Baba S, Heike T, Yoshimoto M, Umeda K, Doi H, Iwasa T, Lin X, Matsuoka S, Komeda M, Nakahata T: Flk1+ cardiac stem/progenitor cells derived from embryonic stem cells improve cardiac function in a dilated cardiomyopathy mouse model. *Cardiovasc Res.* 76:119-131,2007.
- Fujino H, Hiramatsu H, Tsuchiya A, Niwa A, Noma H, Shiota M, Umeda K, Yoshimoto M, Ito M, Heike T, Nakahata T: Human cord blood CD34+ cells develop into hepatocytes in the livers of NOD/SCID/gcnull mice through cell fusion. *FASEB J.* 21:3499-3510,2007.

## 放射線腫瘍学・画像応用治療学 (Radiation Oncology and Image-Applied Therapy)

- Harada H, Kizaka-Kondoh S, Hiraoka M. Antitumor protein therapy; application of the protein transduction domain to the development of a protein drug for cancer treatment. *Breast Cancer*;13(1):16-26. (2006)
- 近藤科江、原田浩、田中正太郎、平岡真寛 HIF-1 を利用した腫瘍内低酸素がん細胞のイメージング・ターゲティング 2 放射線科学 49 (12) 436-441 (2006).
- 近藤科江、原田浩、田中正太郎、平岡真寛 HIF-1 を利用した腫瘍内低酸素がん細胞のイメージング・ターゲティング 1 放射線科学 49 (11) 399-404 (2006).
- 田中正太郎、近藤科江 蛍光の生体イメージングへの応用 *Bioclinica* 21(11), 992-998 (2006)
- 近藤科江、原田浩、平岡真寛 低酸素を標的とした生体イメージング分子プローブの開発 *未来医学*. 21, 32-37 (2006).
- 近藤科江、原田浩、平岡真寛 『低酸素がん細胞』を標的としたがんのイメージング・ターゲティング *バイオテクノロジージャーナル* 6 (2), 234-237 (2006)
- Harada H., Kizaka-Kondoh S., Li G., Itasaka S., Shibuya K., Inoue M., Hiraoka M.: Significance of HIF-1-active cells in angiogenesis and radioresistance., *Oncogene*., 26(54):7508-16 (2007).
- Harada H., Kizaka-Kondoh S., Itasaka S., Shibuya K., Morinibu A., Shinomiya K., Hiraoka M.: The combination of hypoxia-response enhancers and an oxygen-dependent proteolytic motif enables real-time imaging of absolute HIF-1 activity in tumor xenografts., *Biochemical and Biophysical Research Communications*., 360(4):791-796 (2007).
- Zeng L., Kizaka-Kondoh S., Itasaka S., Xie X., Inoue M., Tanimoto K., Shibuya K., Hiraoka M.: HIF-1 influences sensitivity to Paclitaxel of human lung cancer cell lines under normoxic conditions., *Cancer Science*., 98:1394-1401 (2007).
- Hiraga T., Kizaka-Kondoh S., Hirota K., Hiraoka M., Yoneda T.: Hypoxia and Hypoxia-inducible factor-1 expression enhance osteolytic bone

metastases of breast cancer., *Cancer Res.*, 67: 4157-4163 (2007).

Tanaka S., Kizaka-Kondoh S., Harada H., Hiraoka M.: Development of a novel fluorescent imaging probe for tumor hypoxia by use of a fusion protein with oxygen-dependent degradation domain of HIF-1 $\alpha$ , Genetically Engineered and Optical Probes for Biomedical Applications IV., Proceedings of SPIE 6449: 64490Y1-64490Y8 (2007)

神崎達也、牧野 颯、木村俊作、近藤科江、平岡眞寛、小関英一。新しいナノキャリア “ペプトソーム” 次世代 DDS への期待 化学と生物 11 : 779-784 (2007)。

近藤科江 がんの光イメージングががんの微小環境イメージング *Medical Bio* 11月号、24-29 (2007)。

近藤科江 概論 日進月歩のイメージング技術のがん診断への応用。実験医学、10月増刊号 Vol.25(No.17),2770-2777 (2007)。

近藤科江、田中正太郎、平岡眞寛 癌微小環境イメージングによる悪性腫瘍診断法開発 実験医学、10月増刊号 Vol.25(No.17),2805-2812 (2007)。

近藤科江 環境標的としての低酸素細胞の光イメージング 実験医学9月号。Vol.25(No.14),2144-2150 (2007)。

木村俊作、近藤科江、平岡眞寛 分子イメージングへ応用するナノキャリアの開発 化学62, 34-37 (2007)。

神崎達也、牧野颯、木村俊作、近藤科江、平岡眞寛、小関英一 新しいナノキャリア “ペプトソーム” 次世代 DDS への期待 化学と生物 45(11), 779-784 (2007)。

近藤科江、平岡眞寛 HIF-1 を利用した主要内低酸素がん細胞のイメージング 放射線生物研究 42(2), 162-173 (2007)

近藤科江、平岡眞寛 低酸素イメージング、発光イメージング 病理と臨床 Vol. 25(No. 6), 539-545 (2007)。

## 肝胆膵・移植外科学 (Hepatobiliary Pancreatic Surgery and Transplantation)

Tada M, Hatano E, Taura K, Nitta T, Koizumi N, Ikai I, Shimahara Y. High volume hydrodynamic injection of plasmid DNA via the hepatic artery results in a high level of gene expression in rat hepatocellular carcinoma induced by diethylnitrosamine. *J Gene Med.* 2006 Aug;8(8):1018-26.

Ishii T, Yasuchika K, Machimoto T, Kamo N, Komori J, Konishi S, Suemori H, Nakatsuji N, Saito M, Kohno K, Uemoto S, Ikai I. Transplantation of embryonic stem cell-derived endodermal cells into mice with induced lethal liver damage. *Stem Cells.* 2007 Dec;25(12):3252-3260.

Machimoto T, Yasuchika K, Komori J, Ishii T, Kamo N, Shimoda M, Konishi S, Saito M, Kohno K, Uemoto S, Ikai I. Improvement of the survival rate by fetal liver cell transplantation in mice lethal liver failure model. *Transplantation.* 2007 Nov 27;84(10):1233-1239.

Kamo N, Yasuchika K, Fujii H, Hoppo T, Machimoto T, Ishii T, Fujita N, Tsuruo T, Yamashita JK, Kubo H, Ikai I. Two population of Thy1-positive mesenchymal cells regulate in vitro maturation of hepatic progenitor cells. *Am J Physiol Gastrointest Liver Physiol.* 207 Feb;292(2):G526-534.

## 婦人科学・産科学 (Gynecology and Obstetrics)

“Eph-ephrin A system regulates murine blastocyst attachment and spreading.” Fujii H, Tatsumi K, Kosaka K, Yoshioka S, Fujiwara H, Fujii S. *Dev Dyn.* 2006 Dec;235(12):3250-8.

“Oncogenic property of acrogranin in human uterine leiomyosarcoma: direct evidence of genetic contribution in in vivo tumorigenesis.” Matsumura N, Mandai M, Miyanishi M, Fukuhara K, Baba T, Higuchi T, Kariya M, Takakura K, Fujii S. *Clin Cancer Res.* 2006 Mar 1;12(5):1402-11.

“Trophinin is a potent prognostic marker of ovarian cancer involved in platinum sensitivity.” Baba T, Mori S, Matsumura N, Kariya M, Murphy SK, Kondoh E, Kusakari T, Kuroda H, Mandai M, Higuchi T, Takakura K, Fukuda MN, Fujii S. *Biochem Biophys Res Commun.* 2007 Aug 24;360(2):363-9.

“The relationship between maternal plasma leptin levels and fetal growth restriction.” Mise H, Yura S, Itoh H, Nuamah MA, Takemura M, Sagawa N, Fujii S. *Endocr J.* 2007;54(6):945-51.

“Undernutrition in utero augments systolic blood pressure and cardiac remodeling in adult mouse offspring: possible involvement of local cardiac angiotensin system in developmental origins of cardiovascular disease.” Kawamura M, Itoh H, Yura S, Mogami H, Suga S, Makino H, Miyamoto Y, Yoshimasa Y, Sagawa N, Fujii S. *Endocrinology.* 2007 Mar;148(3):1218-25

“Programmed cell death 1 ligand 1 and tumor-infiltrating CD8+ T lymphocytes are prognostic factors of human ovarian cancer.” Hamanishi J, Mandai M, Iwasaki M, Okazaki T, Tanaka Y, Yamaguchi K, Higuchi T, Yagi H, Takakura K, Minato N, Honjo T, Fujii S. *Proc Natl Acad Sci U S A.* 2007 Feb 27;104(9):3360-5.

“Immortalized ovarian surface epithelial cells acquire tumorigenicity by Acrogranin gene overexpression.” Miyanishi M, Mandai M, Matsumura N, Yamaguchi K, Hamanishi J, Higuchi T, Takakura K, Fujii S. *Oncol Rep.* 2007 Feb;17(2):329-33.

“Integrin alpha5 is involved in fibronectin-induced human extravillous trophoblast invasion.” Zeng BX, Fujiwara H, Sato Y, Nishioka Y, Yamada S, Yoshioka S, Ueda M, Higuchi T, Fujii S. *J Reprod Immunol.* 2007 Feb;73(1):1-10.

## 心臓血管外科学 (Cardiovascular Surgery)

- Nakajima H, Yamanaka K, Horii T, Nishina T, Ikeda T, Komeda M.(2006) A more comprehensive left ventricular repair for severely dilated cardiomyopathy. *J Card Surg.* 2006;21(1):62-4
- Marui A, Hirose K, Maruyama T, Arai Y, Huang Y, Doi K, Ikeda T, Komeda M. (2006) Prostaglandin E2 EP4 receptor-selective agonist facilitates sternal healing after harvesting bilateral internal thoracic arteries in diabetic rats. *J Thorac Cardiovasc Surg.* 2006;131(3):587-93.
- Kanemitsu H, Takai S, Tsuneyoshi H, Nishina T, Yoshikawa K, Miyazaki M, Ikeda T, Komeda M. (2006) Chymase inhibition prevents cardiac fibrosis and dysfunction after myocardial infarction in rats. *Hypertens Res* 2006;29(1):57-64.
- Hirose K, Marui A, Arai Y, Nomura T, Inoue S, Kaneda K, Kamitani T, Fujita M, Mitsuyama M, Tabata Y, Komeda M.(2006) Sustained-release vancomycin sheet may help to prevent prosthetic graft methicillin-resistant *Staphylococcus aureus* infection. *J Vasc Surg.* 2006;44(2):377-82.
- Hirose K, Fujita M, Marui A, Arai Y, Sakaguchi H, Huang Y, Chandra S, Tabata Y, Komeda M.(2006) Combined treatment of sustained-release basic fibroblast growth factor and sargogrelate enhances collateral blood flow effectively in rabbit hindlimb ischemia. *Circ J.* 2006;70(9):1190-4.
- Premaratne GU, Tambara K, Fujita M, Lin X, Kanemitsu N, Tomita S, Sakaguchi G, Nakajima H, Ikeda T, Komeda M.(2006) Repeated implantation is a more effective cell delivery method in skeletal myoblast transplantation for rat myocardial infarction. *Circ J.* 2006;70(9):1184-9.
- Takaba K, Jiang C, Nemoto S, Saji Y, Ikeda T, Urayama S, Azuma T, Hokugo A, Tsutsumi S, Tabata Y, Komeda M.(2006) A combination of omental flap and growth factor therapy induces arteriogenesis and increases myocardial perfusion in chronic myocardial ischemia: Evolving concept of biologic coronary artery bypass grafting. *J Thorac Cardiovasc Surg.* 2006;132(4):891-899
- Kanemitsu N, Tambara K, Premaratne GU, Kimura Y, Tomita S, Kawamura T, Hasegawa K, Tabata Y, Komeda M. Insulin-like growth factor-1 enhances the efficacy of myoblast transplantation with its multiple functions in the chronic myocardial infarction rat model. *J Heart Lung Transplant.* 2006 Oct;25(10):1253-62. Epub 2006 Sep 7.
- Oriyahan W, Miyamoto TA, Yamazaki K, Miwa S, Takaba K, Ikeda T, Komeda M. Regionally perfused taurine. Part I. Minimizes lactic acidosis and preserves CKMB and myocardial contractility after ischemia/reperfusion. *Adv Exp Med Biol.* 2006;583:271-88.
- 金光尚樹、米田正始 (2006) 虚血性心疾患に対する血管新生・心筋再生治療 日本外科学会雑誌 2006;107(1):33-37
- 仁科 健、米田正始 (2006) 「虚血性心筋症の治療」-虚血性心筋症に対する再生医療の臨床応用への展望- 日本冠疾患学会雑誌 2006;12(1):89-92
- 新井善雄、丸井 晃、米田正始 (2006) 塩基性線維芽細胞増殖因子徐放システムを用いた再生治療 日本臨床 2006;64(11):2142-2147
- 丹原圭一、米田正始 (2006) 末期心不全の細胞移植療法-徐放化細胞増殖因子投与による移植効果の増強- Tokyo Heart Journal 2006;26(2):42-48
- 丸井 晃、田畑泰彦、福島正典、北 徹、中尾一和、木村 剛、松井茂之、長谷川浩二、堀内久徳、原田昌樹、山本雅雅哉、小島伸介、仁科 健、池田 義、米田正始 (2006) bFGF 徐放による「時間的・空間的」局所血管新生-安全性・低侵襲性への新たな試み- Cardiovascular Med-Surg 2006;8(2):203-207
- 仁科 健、丸井 晃、米田正始 (2006) 心臓手術に対する胸骨再生療法の必要性 細胞増殖因子と再生医療 2006
- 丸井 晃、米田正始 (2006) 血管新生 細胞増殖因子と再生医療 2006
- 丸井 晃、米田正始 (2006) 再生医療に役立つDDS~より一層の安全性・有効性をめざして バイオテクノロジージャーナル 2006 9-10
- 長澤 淳、新井善雄、米田正始 (2006) 心臓血管外科領域の再生医療-実験から臨床へ 日本循環制御 2006;27(3)
- 阪口寿仁、丸井 晃、丹原圭一、米田正始 (2006) 心臓外科領域における再生医学の応用 Anesthesia 21 Century 2006;8(3-26):36-40
- Lin X, Fujita M, Kanemitsu N, Kimura Y, Tambara K, Premaratne GU, Nagasawa A, Ikeda T, Tabata Y, Komeda M.(2007) Sustained-release erythropoietin ameliorates cardiac function in infarcted rat -heart without inducing polycythemia. *Circ J.* 2007 Jan;71(1):132-7.
- Oriyahan W, Tsuneyoshi H, Nishina T, Matsuoka S, Ikeda T, Komeda M.(2007) Determination of optimal duration of mechanical unloading for failing hearts to achieve bridge to recovery in a rat heterotopic heart transplantation model. *J Heart Lung Transplant.* 2007 Jan;26(1):16-23.
- Arai Y, Fujita M, Marui A, Hirose K, Sakaguchi H, Ikeda T, Tabata Y, Komeda M.(2007) Combined treatment with sustained-release basic fibroblast growth factor and heparin enhances neovascularization in hypercholesterolemic mouse hindlimb ischemia. *Circ J.* 2007 Mar;71(3):412-7.
- Fukuoka M, Nonaka M, Masuyama S, Shimamoto T, Tambara K, Yoshida H, Ikeda T, Komeda M.(2007) Chordal "translocation" for functional mitral regurgitation with severe valve tenting: an effort to preserve left ventricular structure and function. *J Thorac Cardiovasc Surg.* 2007 Apr;133(4):1004-11. Epub 2007 Feb 26.
- Doi K, Ikeda T, Marui A, Kushibiki T, Arai Y, Hirose K, Soga Y, Iwakura A, Ueyama K, Yamahara K, Itoh H, Nishimura K, Tabata Y, Komeda M.(2007) Enhanced angiogenesis by gelatin hydrogels incorporating basic fibroblast growth factor in rabbit model of hind limb ischemia. *Heart Vessels.* 2007 Mar;22(2):104-8. Epub 2007 Mar 23.
- Koyama T, Soga Y, Unimonh O, Nishimura K, Komeda M.(2007) Mitral annuloplasty as a ventricular restoration method for the failing left ventricle: a pilot study. *J Heart Valve Dis.* 2007 Mar;16(2):195-9.
- Marui A, Tabata Y, Kojima S, Yamamoto M, Tambara K, Nishina T, Saji Y, Inui K, Hashida T, Yokoyama S, Onodera R, Ikeda T, Fukushima M, Komeda M.(2007) A novel approach to therapeutic angiogenesis for patients with critical limb ischemia by sustained release of basic fibroblast growth factor using biodegradable gelatin hydrogel: an initial report of the phase I-IIa study. *Circ J.* 2007 Aug;71(8):1181-6.
- Hirose K, Marui A, Arai Y, Nomura T, Kaneda K, Kimura Y, Ikeda T, Fujita M, Mitsuyama M, Tabata Y, Komeda M.(2007) A novel approach to reduce catheter-related infection using sustained-release basic fibroblast growth factor for tissue regeneration in mice. *Heart Vessels.* 2007

Jul;22(4):261-7. Epub 2007 Jul 20.

Soga Y, Takai S, Koyama T, Okamoto Y, Ikeda T, Nishimura K, Miyazaki M, Komeda M.(2007) Attenuating effects of chymase inhibitor on pericardial adhesion following cardiac surgery. *J Card Surg.* 2007 Jul-Aug;22(4):343-7.

Sasahashi N, Harada H, Saji Y, Marui A, Nishina T, Komeda M.(2007) Aortic valve replacement for aortic regurgitation in a patient with antiphospholipid antibody syndrome. *Gen Thorac Cardiovasc Surg.* 2007 Jul;55(7):293-6.

Esaki J, Marui A, Tabata Y, Komeda M.(2007) Controlled release systems of angiogenic growth factors for cardiovascular diseases. *Expert Opin Drug Deliv.* 2007 Nov;4(6):635-649.

Handa N, Magata Y, Mukai T, Nishina T, Konishi J, Komeda M.(2007) Quantitative FDG-uptake by positron emission tomography in progressive hypertrophy of rat hearts in vivo. *Ann Nucl Med.* 2007 Dec;21(10):569-76

Marui A, Komeda M(2007) Nontransplant surgical treatment for advanced heart failure. *Current Opinion in Organ Transplantation.* 2007.12:515-521

阪口寿仁、丸井 晃、丹原圭一、米田正始 (2007) DDS を用いた心臓血管外科領域における再生医療 日本再生医療学会雑誌再生医療 2007;6(1):15-19

柳 茂樹、米田正始 (2007) 心不全再生医療研究の現状と今後の展望 日本臨床 心不全(上)-最新の基礎・臨床研究の進歩- 2007;65(4):29-34

杉本亮大、米田正始 (2007) 循環器系の再生医療 細胞成長因子を用いた治療を中心に ティッシュエンジニアリング 2007

江崎二郎 丸井 晃、米田正始 (2007) 血管を作る蛋白質 bFGF 医学書院 2007;35(6):581-583

丸井 晃、米田正始 (2007) 生体吸収性材料によるドラッグデリバリーシステム(DDS)を応用した新世代の再生医療 日本循環器学会専門医 2007. ;15(2):231-237

## 形成外科学 (Plastic and Reconstructive Surgery)

Togo T, Utani A, Naitoh M, Ohta M, Tsuji Y, Morikawa N, Nakamura M, Suzuki S. (2006) Identification of cartilage progenitor cells in the adult ear perichondrium: utilization for cartilage reconstruction. *Lab Invest.* 86:445-57.

川添剛, 鈴木茂彦 (2006) 植皮と血管新生・血管吻合これまでのあゆみ、現状、今後の展望。医学のあゆみ、219 : 503-506

Tsuiji-Saso Y, Kawazoe T, Morimoto N, Tabata Y, Taira T, Tomihata K, Utani A, Suzuki S. (2007) Incorporation of basic fibroblast growth factor into preconfluent cultured skin substitute to accelerate neovascularisation and skin reconstruction after transplantation. *Scand J Plast Reconstr Surg Hand Surg.* 41:228-35.

Okano J, Suzuki S, Shiota K. (2007) Involvement of apoptotic cell death and cell cycle perturbation in retinoic acid-induced cleft palate in mice. *Toxicol Appl Pharmacol.* 221:42-56.

鈴木茂彦, 森本尚樹, 内藤素子 (2007) 再生医学のいま基礎研究から臨床への展開に向けて皮膚・軟部組織の再生。治療、89:2681-2687

河合勝也, 鈴木茂彦 (2007) 人工真皮(ペルナック)とbasic Fibroblast Growth Factor(bFGF)との併用療法における創傷治癒促進効果についての実験的検討。日本形成外科学会誌、27 : 277-282

鈴木茂彦, 川添剛 (2007) 人工真皮による治療 PEPARS, 16:69-74.

森本尚樹, 鈴木茂彦 (2007) 良性肉芽形成に関する新知見 形成外科、50 : 645-651

## 耳鼻咽喉科・頭頸部外科学 (Otolaryngology-Head and Neck Surgery)

Okano T, Nakagawa T, Kita T, Endo T, Ito J. Cell-gene delivery of brain-derived neurotrophic factor to the mouse inner ear. *Mol Ther* 14: 866-871, 2006.

Iwai K, Nakagawa T, Endo T, Matsuoka Y, Kita T, Kim TS, Tabata Y, Ito J. Cochlear protection by local IGF-1 application using biodegradable hydrogel. *Laryngoscope* 116: 526-533, 2006.

Hori R, Nakagawa T, Sakamoto T, Matsuoka Y, Takebayashi S, Ito J. Pharmacological inhibition of Notch signaling in the mature guinea pig cochlea. *Neuroreport.* 18:1911-1914, 2007

Lee KY, Nakagawa T, Okano T, Hori R, Ono K, Tabata Y, Lee SH, Ito J. Novel therapy for hearing loss: Delivery of insulin-like growth factor-1 to the cochlea using gelatin hydrogel. *Otol Neurotol* 28; 976-981, 2007.

Sharif S, Nakagawa T, Ohno T, Matsumoto M, Kita T, Riazuddin S, Ito J. The potential use of bone marrow stromal cells for cochlear cell therapy. *Neuroreport* 18: 351-354, 2007.

伊藤壽一、中川隆之、山本典生 内耳障害への再生医学的アプローチ 最新医学 62: 130-169, 2007.

Higashi T, Nakagawa T, Kita T, Kim TS, Sakamoto T, Ito J. Effects of bone-morphogenetic protein 4 on differentiation of embryonic stem cells into myosin VIIa-positive cells. *Acta Otolaryngol* 557: 36-40, 2007..

Nakagawa T, Ito J. Drug delivery systems for the treatment of sensorineural hearing loss. *Acta Otolaryngol* 557: 30-35, 2007.

## 整形外科学 (Orthopaedic and Musculoskeletal Surgery)

- Otsuki B, Takemoto M, Fujibayashi S, Neo M, Kokubo T, Nakamura T. (2006) Pore throat size and connectivity determine bone and tissue ingrowth into porous implants: three-dimensional micro-CT based structural analyses of porous bioactive titanium implants. *Biomaterials*. Dec;27(35):5892-900.
- Goto K, Shinzato S, Fujibayashi S, Tamura J, Kawanabe K, Hasegawa S, Kowalski R, Nakamura T. (2006) The biocompatibility and osteoconductivity of a cement containing beta-TCP for use in vertebroplasty. *J Biomed Mater Res A*. Sep 1;78(3):629-37.
- So K, Fujibayashi S, Neo M, Anan Y, Ogawa T, Kokubo T, Nakamura T. (2006) Accelerated degradation and improved bone-bonding ability of hydroxyapatite ceramics by the addition of glass. *Biomaterials*. Sep; 27(27):4738-44.
- Takemoto M, Fujibayashi S, Neo M, Suzuki J, Kokubo T, Nakamura T. (2006) Bone-bonding ability of a hydroxyapatite coated zirconia- alumina nanocomposite with a microporous surface. *J Biomed Mater Res A*. Sep 15;78(4):693-701.
- Ikeguchi R, Kakinoki R, Matsumoto T, Yamakawa T, Nakayama K, Morimoto Y, Tsuji H, Ishikawa J, Nakamura T. (2006) Basic fibroblast growth factor promotes nerve regeneration in a C- -ion-implanted silicon chamber. *Brain Res*. May 23;1090(1):51-7.
- Takemoto M, Fujibayashi S, Neo M, Suzuki J, Matsushita T, Kokubo T, Nakamura T. (2006) Osteoinductive porous titanium implants: effect of sodium removal by dilute HCl treatment. *Biomaterials*. May;27(13): 2682-91.
- Hasegawa S, Ishii S, Tamura J, Furukawa T, Neo M, Matsusue Y, Shikinami Y, Okuno M, Nakamura T. (2006) A 5-7 year in vivo study of high-strength hydroxyapatite/poly(L-lactide) composite rods for the internal fixation of bone fractures. *Biomaterials*. Mar;27(8):1327-32.
- Suzuki T, Fujibayashi S, Nakagawa Y, Noda I, Nakamura T. (2006) Ability of zirconia double coated with titanium and hydroxyapatite to bond to bone under load-bearing conditions. *Biomaterials*. Mar;27(7): 996-1002.
- Kuroki H, Nakagawa Y, Mori K, Kobayashi M, Yasura K, Okamoto Y, Mizuno Y, Ando K, Ikeuchi K, Nakamura T. (2006) Maturation-dependent change and regional variations in acoustic stiffness of rabbit articular cartilage: an examination of the superficial collagen-rich zone of cartilage. *Osteoarthritis Cartilage*. 14:784-792
- Kimura H, Akiyama H, Nakamura T, de Crombrughe B (2007) Tenascin-W inhibits proliferation and differentiation of preosteoblasts during endochondral bone formation. *Biochem Biophys Res Commun* 356:935-941
- Kuroki H, Nakagawa Y, Mori K, Kobayashi M, Okamoto Y, Yasura K, Nishitani K, Nakamura T. (2007) Sequential changes in implanted cartilage after autologous osteochondral transplantation: postoperative acoustic properties up to 1 year in an in vivo rabbit model. *Arthroscopy*. 23(6):647-54.
- Yamakawa T, Kakinoki R, Ikeguchi R, Nakayama K, Morimoto Y, Nakamura T. (2007) Nerve regeneration promoted in a tube with vascularity containing bone marrow-derived cells. *Cell Transplant*. 16(8):811-22
- Takemoto M, Fujibayashi S, Neo M, So K, Akiyama N, Matsushita T, Kokubo T, Nakamura T, Yamakawa T, Kakinoki R, Ikeguchi R, Nakayama K, Morimoto Y, Nakamura T. (2007) A porous bioactive titanium implant for spinal interbody fusion: an experimental study using a canine model. *J Neurosurg Spine*. Oct;7(4):435-43.
- So K, Takemoto M, Fujibayashi S, Neo M, Kyomoto M, Hayami T, Hyon SH, Nakamura T. (2007) Antidegenerative effects of partial disc replacement in an animal surgery model. *Spine*. Jul 1;32(15):1586-91.
- Hasegawa S, Neo M, Tamura J, Fujibayashi S, Takemoto M, Shikinami Y, Okazaki K, Nakamura T. (2007) In vivo evaluation of a porous hydroxyapatite/poly-DL-lactide composite for bone tissue engineering. *J Biomed Mater Res A*. Jun 15;81(4):930-8.
- Ikeguchi R, Kakinoki R, Matsumoto T, Yamakawa T, Nakayama K, Morimoto Y, Nakamura T. (2007) Successful storage of peripheral nerves using University of Wisconsin solution with polyphenol. *J Neurosci Methods*. Jan 15;159(1):57-65.

## 口腔外科学 (Oral and Maxillofacial Surgery)

- Okubo Y, Kusumoto K and Bessho K (2007) Accelerators of osteogenesis by recombinant bone morphogenetic protein-2. *Drug Target insight*. 1:55-60
- Takafuji H, Suzuki T, Okubo Y, Fujimura K and Bessho K (2007) Regeneration of articular cartilage defect in the temporomandibular joint of rabbits by fibroblast growth factor -2 : a pilot study. *Int J Oral Maxillofac Surg*. 36:934-937
- Murashima-Suginami T, Takahashi K, Kawabata T, Sakata T, Sugai M, Yanagita M, Shimizu A, Sakura Ti, Slavkin HC and Bessho K (2007) Rudiment incisors survive and erupt as supernumerary teeth as a result of USAG-1 abrogation. *Biochem Biophys Res Commun*. 359:549-555

## 臨床神経学 (Neurology)

- Nakaji K, Ihara M, Takahashi C, Itoharu S, Noda M, Takahashi R, Tomimoto H (2006) Matrix metalloproteinase-2 plays a critical role in the pathogenesis of white matter lesions after chronic cerebral hypoperfusion in rodents. *Stroke*, 37(11):2816-2823.
- Shirakashi Y, Kawamoto Y, Tomimoto H, Takahashi R, Ihara M (2006) alpha-Synuclein is colocalized with 14-3-3 and synphilin-1 in A53T transgenic mice. *Acta Neuropathol*, 112(6):681-689.
- 山門穂高、高橋良輔 (2006) Parkinson病と小胞体ストレス. *医学のあゆみ*, 216(12):869-871.



山門穂高、高橋良輔 (2006) 家族性パーキンソン病の発症機序. 細胞、38(6):254-257

竹内啓喜、北村佳久、谷口隆之、青柳信寿、山川健太郎、澤田秀幸、赤池昭紀、下濱俊、高橋良輔 (2006) ニコチンによるドーパミン神経保護. 脳 2 1、9:375

Shibata M, Yamasaki N, Miyakawa T, Kalaria RN, Fujita Y, Ohtani R, Ihara M, Takahashi R, Tomimoto H (2007) Selective impairment of working memory in a mouse model of chronic cerebral hypoperfusion. *Stroke*, 38(10):2826-2832.

Kitaguchi H, Ihara M, Saiki H, Takahashi R, Tomimoto H (2007) Capillary beds are decreased in Alzheimer's disease, but not in Binswanger's disease. *Neurosci Lett*, 417(2):128-131.

Ihara M, Yamasaki N, Hagiwara A, Tanigaki A, Kitano A, Hikawa R, Tomimoto H, Noda M, Takanashi M, Mori H, Hattori N, Miyakawa T, Kinoshita M (2007) Sept4, a component of presynaptic scaffold and Lewy bodies, is required for the suppression of alpha-synuclein neurotoxicity. *Neuron*, 53(4):519-533.

Ohtani R, Tomimoto H, Wakita H, Kitaguchi H, Nakaji K, Takahashi R (2007) Expression of S100 protein and protective effect of arundic acid on the rat brain in chronic cerebral hypoperfusion. *Brain Res*, 1135(1):195-200.

竹内啓喜、高橋良輔 (2007) パーキンソン病の成因. 日本老年医学会雑誌、44:415-421.

## 脳神経外科学 (Neurosurgery)

Moriwaki T, Takagi Y, Sadamasa N, Aoki T, Nozaki K, Hashimoto N: Impaired progression of cerebral aneurysms in interleukin-1  $\beta$ -deficient mice. *Stroke* 37: 900-905, 2006

Aoki T, Kataoka H, Moriwaki T, Nozaki K, Hashimoto N: Role of TIMP-1 and TIMP-2 in the progression of cerebral aneurysms *Stroke* 38: 2337-2345, 2007

Sadamasa N, Nozaki K, Takagi Y, Moriwaki T, Kawanabe Y, Ishikawa M, Hashimoto N: Cerebral aneurysm progression suppressed by blockage of endothelin B receptor. *J Neurosurg* 106: 330-336, 2007

Aoki T, Kataoka H, Shimamura M, Nakagami H, Wakayama K, Moriwaki T, Ishibashi R, Nozaki K, Morishita R, Hashimoto N: NF-kappaB is a key mediator of cerebral aneurysm formation. *Circulation* 11;116: 2830-2840, 2007

## 輸血細胞治療部 (Transfusion Medicine and Cell Therapy)

Sato K, Yuasa T, Nogawa M, Kimura S, Segawa H, Yokota A, Maekawa T. A third generation bisphosphonate, minodronic acid (YM529), successfully prevented the growth of bladder cancer *in vitro* and *in vivo*. *Brit J Cancer* 95: 1354-1361, 2006.

Naito H, Kimura S, Nakaya Y, Naruoka H, Kimura S, Ito S, Wakayama T, Maekawa T, Hirabayashi K. *In vivo* antiproliferative effect of NS-187, a dual Bcr-Abl/Lyn tyrosine kinase inhibitor, on leukemic cells harbouring Abl kinase domain mutations. *Leuk Res* 30: 1443-1446, 2006.

Horie N, Murata H, Nishigaki T, Segawa H, Yuasa T, Kimura S, Maekawa T, Fushiki S, Kubo T. The third-generation bisphosphonates inhibit tumor proliferation and induce apoptosis in murine osteosarcoma *in vitro*. *Cancer Lett* 238: 111-118, 2006.

Horie N, Murata H, Kimura S, Takeshita H, Sakabe T, Matsui T, Maekawa T, Kubo T, Fushiki S. Combined effects of a third-generation bisphosphonate, zoledronic acid with other anti-cancer agents against osteosarcoma. *Brit J Cancer* 96: 255-261, 2007.

Yokota A, Kimura S, Masuda S, Ashihara E, Kuroda J, Sato K, Kamitsuji Y, Kawata E, Deguchi Y, Urasaki Y, Terui Y, Ruthardt M, Ueda T, Hatake K, Inui K, Maekawa T. INNO-406, a novel BCR-ABL/Lyn dual tyrosine kinase inhibitor, suppresses the growth of Ph<sup>+</sup> leukemia cells in the central nervous system and cyclosporine A augments its *in vivo* activity. *Blood* 109: 306-314, 2007.

## 探索医療センター (Translational Research Center)

Okabe T-a, Kishimoto C, Shimada K, Murayama T, Yokode M, Kita T. (2006), Effects of MCI-186(Edaravone), a novel free radical scavenger, upon experimental atherosclerosis in apolipoprotein E-deficient mice., *Circ J* 70: 1216-1219.

Zhuge X, Arai H, Xu Y, Murayama T, Kobayashi T, Narumiya S, Kita T, Yokode M. (2006), Protection of atherogenesis in thromboxane A2 receptor-deficient mice is not associated with thromboxane A2 receptor in bone marrow-derived cells., *Biochem Biophys Res Commun* 351: 865-871.

Okabe T, Kishimoto C, Murayama T, Yokode M, Kita T. (2006), Effects of exercise on the development of atherosclerosis in apolipoprotein E-deficient mice., *Exp Clin Cardiol* 11: 276-279.

Irako T, Akamizu T, Hosoda H, Iwakura H, Ariyasu H, Tojo K, Tajima N, Kangawa K. (2006), Ghrelin prevents development of diabetes at adult age in streptozotocin-treated newborn rats. *Diabetologia*. 49 (6): 1264-1273.

Spontaneous large-scale lymphoid neogenesis and balanced autoimmunity versus tolerance in the stomach of H+/K+-ATPase-reactive TCR transgenic mouse. Katakai, T., Nomura, T., Gonda, H., Sugai, M., Agata, Y., Nishio, A., Masuda, T., Sakaguchi, S. and Shimizu, A. *J. Immunol.* 177, 7858(2006)

A transmembrane chemokine, CXC chemokine ligand 16, expressed by lymph node fibroblastic reticular cells has the potential to regulate T cell migration and adhesion. Hara, T., Katakai, T., Lee, J.-H., Nambu, Y., Nakajima-Nagata, N., Gonda, H., Sugai, M. and Shimizu, A. *Int Immunol.* 18, 301-311 (2006).

Enhanced anti-fibrotic activity of plasmid DNA expressing small interference RNA for TGF- $\beta$  type II receptor for a mouse model of obstructive nephropathy by cationized gelatin prepared from different amine compounds. Kushibiki, T., Nagata-Nakajima, N., Sugai, M., Shimizu, A., Tabata, Y. *Control. Release* 110: 610-617 (2006)

Harauma A, Murayama T, Ikeyama K, Sano H, Arai H, Takano R, Kita T, Hara S, Kamei K, Yokode M. (2007), Mulberry leaf powder prevents atherosclerosis in apolipoprotein E-deficient mice., *Biochem Biophys Res Commun* **358**: 751-756.

Shimada K, Kishimoto C, Okabe TA, Hattori M, Murayama T, Yokode M, Kita T.(2007), Exercise training reduces severity of atherosclerosis in apolipoprotein E knockout mice via nitric oxide., *Circ J* **71**: 1147-1151.

Xu Y, Arai H, Murayama T, Kita T, Yokode M. (2007), Hypercholesterolemia contributes to the development of atherosclerosis and vascular remodeling by recruiting bone marrow-derived cells in cuff-induced vascular injury., *Biochem Biophys Res Commun* **363**: 782-787.

Iwakura H, Akamizu T, Ariyasu H, Irako T, Hosoda K, Nakao K, Kangawa K (2007), Effects of ghrelin administration on decreased growth hormone status in obese animals. *Am J Physiol Endocrinol Metab.* **293**(3):819-25.

Chromosomal instability by b-catenin/TCF transcription in APC or b-catenin mutant cells. Aoki, K., Aoki, M., Sugai, M., Harada, N., Miyoshi, H., Tsukamoto, T., Mizoshita, T., Takematsu, M., Seno, H., Chiba, T., Oshima, M., Hsieh, C-L. and Takeito, M.M. *Oncogene.* 26, 3511-3520 (2007).

Germinal Center Marker GL7 probes activation-dependent repression of N-glycolylneuraminic acid, a sialic acid species involved in the negative modulation of B-cell activation. Naito, Y., Takematsu, H., Koyama, S., Miyake, S., Yamamoto, H., Fujinawa, R., Sugai, M., Okuno Y., Tsujimoto, G., Yamaji, T., Hashimoto, Y., Itoharu, S., Kawasaki, T., Suzuki, A. and Kozutsumi, Y. *Mol. Cell Biol.* 27, 3008-3022 (2007).

IL-21 induces inhibitor of differentiation 2 (Id2) and leads to complete abrogation of anaphylaxis in mice. Kishida, T., Hiromura, M., Shin-ya, H., Asada, H., Kuriyama, M., Sugai, M., Shimizu, A., Yokota, Y., Hama, T., Imanishi, J., Hisa, Y. and Mazda, O. *J. Immunol.* 179, 8554-8561 (2007)

Rudiment incisors survive and erupt as supernumerary teeth as a result of USAG-1 abrogation. Murashima-Suginami, A., Takahashi, K., Kawabata, T., Sakata, T., Tsukamoto, H., Sugai, M., Yanagita, M., Shimizu, A., Sakurai, T., Slavkin, HC. And Bessho, K. *Biochem. Biophys. Res. Commun.* 359, 549-555 (2007).

## 薬剤部 (Pharmacy)

Shimakura J, Terada T, Saito H, Katsura T, and Inui K (2006) Induction of intestinal peptide transporter 1 expression during fasting is mediated via peroxisome proliferator-activated receptor alpha. *Am J Physiol Gastrointest Liver Physiol* 291:G851-856.

Terada T, Masuda S, Asaka J, Tsuda M, Katsura T, and Inui K. (2006) Molecular cloning, functional characterization and tissue distribution of rat H<sup>+</sup>/organic cation antiporter MATE1. *Pharm Res* 23:1696-1701.

Tsuda M, Terada T, Irie M, Katsura, T, Niida A, Tomita K, Fujii N, and Inui K. (2006) Transport characteristics of a novel peptide transporter 1 substrate, antihypertensive drug midodrine, and its amino acid derivatives. *J Pharmacol Exp Ther* 318:455-460.

Yokoo S, Yonezawa A, Masuda S, Fukatsu A, Katsura T, and Inui K. (2007) Differential contribution of organic cation transporters, OCT2 and MATE1, in platinum agent-induced nephrotoxicity. *Biochem Pharmacol* 74:477-487.

Asaka J, Terada T, Tsuda M, Katsura T, and Inui K. (2007) Identification of essential histidine and cysteine residues of the H<sup>+</sup>/organic cation antiporter multidrug and toxin extrusion (MATE). *Mol Pharmacol* 71:1487-1493.

Hodoshima N, Masuda S, and Inui K. (2007) Decreased renal accumulation and toxicity of a new VCM formulation in rats with chronic renal failure. *Drug Metab Pharmacokinet* 22:419-427.

Nishihara K, Masuda S, Ji L, Katsura T, and Inui K. (2007) Pharmacokinetic significance of luminal multidrug and toxin extrusion 1 in chronic renal failure rats. *Biochem Pharmacol* 73:1482-1490.

Terada T, and Inui K. (2007) Gene expression and regulation of drug transporters in the intestine and kidney. *Biochem Pharmacol* 73:440-449.

Tsuda M, Terada T, Asaka J, Ueba M, Katsura T, and Inui K. (2007) Oppositely directed H<sup>+</sup> gradient functions as a driving force of rat H<sup>+</sup>/organic cation antiporter MATE1. *Am J Physiol Renal Physiol* 292:F593-598.

## 環境衛生学 (Health and Environmental Sciences)

Asakawa, A., Toyoshima, M., Fujimiya, M., Harada, K., Ataka, K., Inoue, K., Koizumi, A., 2007. Perfluorooctane sulfonate influences feeding behavior and gut motility via the hypothalamus. *Int J Mol Med* 19, 733-739.

Asakawa, A., Toyoshima, M., Inoue, K., Koizumi, A., 2007. Ins2Akita mice exhibit hyperphagia and anxiety behavior via the melanocortin system. *Int J Mol Med* 19, 649-652.

Huang, L., Toyoshima, M., Asakawa, A., Inoue, K., Harada, K., Kinoshita, T., Koizumi, A., 2007. Roles of neuropeptides in O,O,S-trimethylphosphorothioate (OOS-TMP)-induced anorexia in mice. *Biochem Biophys Res Commun* 362, 177-182.

Toyoshima, M., Asakawa, A., Fujimiya, M., Inoue, K., Inoue, S., Kinboshi, M., Koizumi, A., 2007. Dimorphic gene expression patterns of anorexigenic and orexigenic peptides in hypothalamus account male and female hyperphagia in Akita type 1 diabetic mice. *Biochem Biophys Res Commun* 352, 703-708.

## 生命科学系キャリアパス形成ユニット (Career-Path Promotion Unit for Young Life Scientists)

Kinoshita M. Diversity of septin scaffolds. (*In Cell structure and Dynamics Review Series*; eds. V. Small and M. Glotzer) *Current Opinion in Cell Biology* 18, 54-60, 2006.

木下 専 「再構成系と遺伝子破壊マウスによるセプチン系の解析。」 *細胞工学* 25 巻 7 号, 785-789, 2006.

木下 専 「細胞分裂と細胞形態形成における GTP 結合蛋白質セプチンの役割。」 *生化学(日本生化学会誌)* 78 巻 8 号, 755-759, 2006.

Ihara M, Yamasaki N, Hagiwara A, Tomimoto H, Kitano A, Tanigaki A, Hikawa E, Noda M, Takanashi M, Mori H, Hattori N, Miyakawa T, Kinoshita M. Sept4, a component of presynaptic scaffold and Lewy bodies, is required for the suppression of  $\alpha$ -synuclein neurotoxicity. *Neuron* 53, 519-533, 2007 (featured article).

猪原匡史、木下 専 「パーキンソン病の病態に迫る。」 *化学と生物(日本農芸化学会誌)* 45 巻 9 号, 598-599, 2007.

## 臓器機能保存学 (Department of Organ Preservation Technology)

Chen F, Nakamura T, Fujinaga T, Zhang J, Hamakawa H, Omasa M, Sakai H, Hanaoka N, Bando T, Wada H, Fukuse T (2006) Protective effect of a nebulized beta2-adrenoreceptor agonist in warm ischemic-reperfused rat lungs. *Ann Thorac Surg*, 82:465-71.

Fujinaga T, Nakamura T, Fukuse T, Chen F, Zhang J, Ueda S, Hamakawa H, Omasa M, Sakai H, Hanaoka N, Wada H, Bando T (2006) Isoflurane inhalation after circulatory arrest protects against warm ischemia reperfusion injury of the lungs. *Transplantation*, 82:1168-74.

浜川博司、園部 誠、大久保憲一、板東 徹、和田洋巳 (2007) 外科学の進歩と今後の展望：呼吸器外科。 *外科*, 69: 384-90.

## 免疫ゲノム医学 (Immunology and Genomic Medicine)

Yamamoto, N., Tanigaki, K., Tsuji, M., Yabe, D., Ito, J. and Honjo, T. (2006) Inhibition of Notch/RBP-J signaling induces hair cell formation in neonate mouse cochleas. *J. Mol. Med.* 84 37-45

Okazaki, T. and Honjo, T. (2006) Rejuvenating exhausted T cells during chronic viral infection. *Cell* 124 459-461

Muto, T., Okazaki, I., Yamada, S., Tanaka, Y., Kinoshita, K., Muramatsu, M., Nagaoka, H. and Honjo, T. (2006) Negative regulation of activation-induced cytidine deaminase in B cells. *Proc. Natl. Acad. Sci. USA.* 103 2752-2757

Fujikura, J., Hosoda, K., Iwakura, H., Tomita, T., Noguchi, M., Masuzaki, H., Tanigaki, K., Yabe, D., Honjo, T. and Nakao, K. (2006) Notch/Rbp-j signaling prevents premature endocrine and ductal cell differentiation in the pancreas. *Cell Metabolism* 3 1-7

Okazaki, T. and Honjo, T. (2006) The PD-1-PD-L pathway in immunological tolerance. (Review) *Trends Immunol.* 27 195-201

Honjo, T., Muramatsu, M., Nagaoka, H., Kinoshita, K. and Shinkura, R. (2006) AID to overcome the limitations of genomic information by introducing somatic DNA alterations. (Review) *Proc. Japan. Acad. Ser. B* 82 104-120

Buono, K. D., Robinson, G. W., Martin, C., Shi, S., Stanley, P., Tanigaki, K., Honjo, T. and Hennighausen, L. (2006) The canonical Notch/RBP-J signaling pathway controls the balance of cell lineages in mammary epithelium during pregnancy. *Developmental Biol.* 293 565-580

Tanaka, S., Tsukada, J., Suzuki, W., Hayashi, K., Tanigaki, K., Tsuji, M., Inoue, H., Honjo, T. and Kubo, M. (2006) The interleukin-4 enhancer CNS-2 is regulated by Notch signals and controls initial expression in NKT cells and memory-type CD4 T cells. *Immunity* 24 689-701

Begum, N. A., Izumi, N., Nishikori, M., Nagaoka, H., Shinkura, R. and Honjo, T. (2007) Requirement of non-canonical activity of uracil DNA glycosylase for class switch recombination. *J. Biol. Chem.* 282 731-742

Tsuji, M., Shinkura, R., Kuroda, K., Yabe, D. and Honjo, T. Msx2-interacting nuclear target protein (Mint) deficiency reveals negative regulation of early thymocyte differentiation by Notch/RBP-J signaling. *Proc. Natl. Acad. Sci. USA.* 104 1610-1615 (2007)

Kotani, A., Kakazu, N., Tsuruyama, T., Okazaki, I., Muramatsu, M., Kinoshita, K., Nagaoka, H., Yabe, D. and Honjo, T. (2007) Activation-induced cytidine deaminase (AID) promotes B cell lymphomagenesis in Emu-cmyc transgenic mice. *Proc. Natl. Acad. Sci. USA.* 104 1616-1620

Kumazaki, K., Tirosh, B., Maehr, R., Boes, M., Honjo, T. and Ploegh, H. L. (2007) AID<sup>-/-</sup>ms<sup>-/-</sup> mice are agammaglobulinemic and fail to maintain B220<sup>+</sup>CD138<sup>+</sup> plasma cells. *J. Immunol.* 178 2192-2203

Shinkura, R., Okazaki, I., Muto, T., Begum, N. A. and Honjo, T. (2007) Regulation of AID function *in vivo*. *Advances in Experimental Medicine and Biology* 596 71-81

Hamanishi, J., Mandai, M., Iwasaki, M., Okazaki, T., Tanaka, Y., Yamaguchi, K., Higuchi, T., Yagi, H., Takakura, K., Minato, N., Honjo, T. and Fujii, S. (2007) Programmed cell death 1 ligand 1 and tumor-infiltrating CD8<sup>+</sup> T lymphocytes are prognostic factors of human ovarian cancer. *Proc. Natl. Acad. Sci. USA.* 104 3360-3365

Tanigaki, K. and Honjo, T. (2007) Regulation of lymphocyte development by Notch signaling. (Review) *Nature Immunol.* 8 451-456

Yabe, D., Fukuda, H., Aoki, M., Yamada, S., Takebayashi, S., Shinkura, R., Yamamoto, N. and Honjo, T. (2007) Generation of a conditional knockout allele for mammalian spen protein Mint/SHARP. *Genesis* 45 300-306

Matsumoto, Y., Marusawa, H., Kinoshita, K., Endo, Y., Kou, T., Morisawa, T., Azuma, T., Okazaki, I., Honjo, T. and Chiba, T. (2007) *Helicobacter pylori* infection triggers aberrant expression of activation-induced cytidine deaminase in gastric epithelium. *Nature Medicine* 13 470-476

Endo, Y., Marusawa, H., Kinoshita, K., Morisawa, T., Sakurai, T., Okazaki, I., Watashi, K., Shimotohno, K., Honjo, T. and Chiba, T. (2007)

Expression of activation-induced cytidine deaminase in human hepatocytes via NF-KB signaling. *Oncogene* 26 5587-5595

Takebayashi, S., Yamamoto, N., Yabe, D., Fukuda, H., Kojima, K., Ito, J. and Honjo, T. (2007) Multiple roles of Notch signaling in cochlear development. *Developmental Biol.* 307 165-178

Muramatsu, M., Nagaoka, H., Shinkura, R., Begum, N. A. and Honjo, T. (2007) Discovery of activation-induced cytidine deaminase, the engraver of antibody memory. *Adv. Immunol.* 94 1-36

Okazaki, I., Kotani, A. and Honjo, T. (2007) Role of AID in tumorigenesis. *Adv. Immunol.* 94 245-273

Okazaki, T. and Honjo, T. (2007) PD-1 and PD-1 ligands: from discovery to clinical application. (Review) *Int. Immunol.* 19 813-824

Terawaki, S., Tanaka, Y., Nagakura, T., Hayashi, T., Shibayama, S., Muroi, K., Okazaki, T., Mikami, B., Garboczi, D. N., Honjo, T. and Minato, N. (2007) Specific and high-affinity binding of tetramerized PD-L1 extracellular domain to PD-1-expressing cells: possible application to enhance T cell function. *Int. Immunol.* 19 881-890

Kovalchuk, A. L., duBois, W., Mushinski, E., McNeil, N. E., Hirt, C., Qi, C.-F., Li, Z., Janz, S., Honjo, T., Muramatsu, M., Ried, T., Behrens, T. and Potter, M. (2007) AID-deficient Bcl-xL transgenic mice develop delayed atypical plasma cell tumors with unusual Ig/Myc chromosomal rearrangements. *J. Exp. Med.* 204 2989-3001