

ナノバイオ標的医療の融合的創出拠点の形成事業  
平成 18 年度 研究業績集

研究項目 2 バイオナノカプセルの開発

Characterization of bio-nanocapsule as a transfer vector targeting human hepatocyte carcinoma by disulfide linkage modification.

Nagaoka T, Fukuda T, Yoshida S, Nishimura H, Yu D, Kuroda S, Tanizawa K, Kondo A, Ueda M, Yamada H, Tada H, Seno M.

*J. Control Release*, 118(3):348-356, 2007.

研究項目 3-1 Ad-REIC ベクターの開発

REIC/Dkk-3 as a potential gene therapeutic agent against human testicular cancer.

Tanimoto R, Abarzua F, Sakaguchi M, Takaishi M, Nasu Y, Kumon H, Huh NH.

*Int. J. Mol. Med.*, 19(3):363-368, 2007.

研究項目 3-2 制限増殖型ウイルス製剤の応用研究

Enhanced antitumor efficacy of telomerase-selective oncolytic adenoviral agent (OBP-401) with docetaxel: Preclinical evaluation of chemovirotherapy.

Fujiwara T, Kagawa S, Kishimoto H, Endo Y, Hioki M, Ikeda Y, Sakai R, Urata Y, Tanaka N, Fujiwara T.

*Int. J. Cancer*, 119:432-440, 2006.

研究項目 3-3 武装化 Telomelysin の開発

Direct and distant antitumor effects of a telomerase-selective oncolytic adenoviral agent, OBP-301, in a mouse prostate cancer model.

Peng Huang, Watanabe M, Kaku H, Kashiwakura Y, Jie Chen, Nasu Y, Fujiwara T, Urata Y, Kumon H.

*Cancer Gene Therapy*, in preparation.

研究項目 4 次世代細胞治療の開発

IL-2-Independent generation of FOXP3<sup>+</sup>CD4<sup>+</sup>CD8<sup>+</sup>CD25<sup>+</sup> cytotoxic regulatory T cell lines from human umbilical cord blood.

Nakamura S, Suzuki M, Sugimoto A, Tsuji-Takayama K, Yamamoto M, Otani T, Inoue T, Harashima A, Okochi A, Motoda R, Yamasaki F, Orita K, Kibata M.

*Exp. Hematol.*, 35:287-296, 2007.

## 研究項目 5 効率的抗体作製システムの開発

1. Genetic manipulation of an exogenous non-immunoglobulin protein by gene conversion machinery in a chicken B cell line.  
Kanayama N, Todo K, Takahashi S, Magari M, Ohmori H.  
*Nucleic Acids Res.*, 34(2):10, 2006.
2. Establishment of lymphotoxin beta receptor signaling-dependent cell lines with follicular dendritic cell phenotypes from mouse lymph nodes.  
Nishikawa Y, Hikida M, Magari M, Kanayama N, Mori M, Kitamura H, Kurosaki T, Ohmori H.  
*J. Immunol.*, 177(8):5204-5214, 2006.
3. Novel in vitro screening system for monoclonal antibodies using hypermutating chicken B cell library.  
Todo K, Miyake K, Magari M, Kanayama N, Ohmori H.  
*J. Biosci. Bioeng.*, 102(5):478-481, 2006.
4. 変異機能の ON/OFF 制御可能な B 細胞株を用いた抗体および変異タンパク質の作製システム  
大森 齊、藤堂景史、金山直樹  
*実験医学*, 24:1331-1335, 2006

## 研究項目 6 - 1 蛍光性アミノ酸の蛋白質への導入

1. Binding efficiencies of EF-Tu to tRNAs charged with fluorescent nonnatural amino acids.  
Nakata H, Ohtsuki T, Abe R, Hohsaka T, Sisido M.  
*Anal. Biochem.*, 348(2):321-323, 2006.
2. TFRET Analysis of protein conformational change through position-specific incorporation of fluorescent amino acids.  
Kajihara D, Abe R, Iijima I, Komiyama C, Sisido M, Hohsaka  
*Nature Methods*, 3:923-929, 2006.

## 研究項目 6 - 2 細胞内イメージング技術の開発

1. Truncations of amphiphysin I by calpain inhibit vesicle endocytosis during neural hyperexcitation.

- Wu Y, Liang S, Oda Y, Ohmori I, Nishiki T, Takei K, Matsui H, and Tomizawa K.  
*EMBO J.*, 2007, in press
2. Major Cdk5-dependent phosphorylation sites of amphiphysin 1 are implicated in the regulation of the membrane binding and endocytosis.  
Liang S, Wei F.-Y, Wu Y.-M, Tanabe K, Abe T, Oda Y, Yoshida Y, Yamada H, Matsui H, Tomizawa K, Takei K.  
*J. Neurochem.*, 2007, in press
  3. Novel protein transduction method by using 11R. An effective new drug delivery system for the treatment of cerebrovascular diseases.  
Ogawa N, Ono S, Ichikawa T, Arimitsu S, Onoda K, Tokunaga K, Sugiu K, Tomizawa K, Matsui H, Date I.  
*Stroke*, 38:1354-1361, 2007.
  4. A cell-permeable NFAT inhibitor peptide prevents pressure-overload cardiac hypertrophy.  
Kuriyama M, Matsushita M, Tateishi A, Moriwaki A, Tomizawa K, Ishino K, Sano S, Matsui H.  
*Chem. Biol. Drug Res.*, 67:238-243, 2006.
  5. p53 Protein transduction therapy: Successful targeting and inhibition of the growth of the bladder cancer cells.  
Inoue M, Tomizawa K, Matsushita M, Lu Y.-F, Yokoyama T, Yanai H, Takashima A, Kumon H, Matsui H.  
*Eur. Urol.*, 49:161-168, 2006.
  6. Development of bionanocapsules targeting brain tumor.  
Tsutsui Y, Tomizawa K, Nagita M, Nishiki T, Ohmori I, Seno M, Matsui H.  
*J. Control Release*, 2007, in revision.
  7. Voltage-dependent Ca<sup>2+</sup> channels regulate mitochondrial dynamics through CaM kinase I-regulated phosphorylation of Drp-1.  
Han X.-J, Lu Y.-F, Li S.-A, Kaitsuka T, Tomizawa K, Nairn A. C, Takei K, Matsui H, Matsushita M.  
*J. Cell Biol.*, 2007, in submission.

## 研究項目7 蛋白質セラピーの開発

1. p53 Protein transduction therapy: successful targeting and inhibition of the growth of the bladder cancer cells.

Inoue M, Tomizawa K, Matsushita M, Lu YF, Yokoyama T, Yanai H, Takashima A, Kumon H, Matsui H.

*Eur. Urol.*, 49(1):161-168, 2006.

2. Truncations of amphiphysin I by calpain inhibit vesicle endocytosis during neural hyperexcitation.

Wu Y, Liang S, Oda Y, Ohmori I, Nishiki T, Takei K, Matsui H, Tomizawa K.

*EMBO J*, 2007, in press

3. Major Cdk5-dependent phosphorylation sites of amphiphysin I are implicated in the regulation of the membrane binding and endocytosis.

Liang S, Wei F-Y, Wu Y-M, Tanabe K, Abe T, Oda Y, Yoshida Y, Yamada H, Matsui H, Tomizawa K, Takei K.

*J. Neurochem.*, 2007 doi:10.1111/j.1471-4159.2007.04507.

4. Novel Protein Transduction Method by Using 11R. An Effective New Drug Delivery System for the Treatment of Cerebrovascular Diseases.

Ogawa T, Ono S, Ichikawa T, Arimitsu S, Onoda K, Tokunaga K, Sugi K, Tomizawa K, Matsui H, Date I.

*Stroke*, 38(1):1354-1361, 2007

5. 蛋白質セラピー法

富澤 一仁、松井 秀樹

*再生医療*, 6(2):24-30, 2007

## 研究項目8-3 探索的融合研究

Heat shock proteins play a crucial role in tumor-specific apoptosis by REIC-Dkk-3.

Abarzua F, Sakaguchi M, Tanimoto R, Sonogawa H, Li DW, Edamura K, Kobayashi T, Watanabe M, Kashiwakura Y, Kaku H, Saika T, Nakamura K, Nasu Y, Kumon H, Huh NH

*Int. J. Mol. Med.*, in press.

以上