

卵巣癌に対するテロメラーヌ活性中心hTERT遺伝子プロモーターを用いた遺伝子治療

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Gene therapy against ovarian cancers using hTERT promoter

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Allocation Type

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Section

一般

Research Field

Obstetrics and gynecology

Research Institution

Kanazawa University

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Research Abstract

Telomerase activation has been observed in almost 90% of human cancers but not normal tissues of somatic origin. The recent research on the transcriptional regulation of hTERT promoter identified several factors, including c-Myc, SP1 and E2, which critically regulate promoter activity. The present study is based on the idea that the hTERT promoter can confer strong tumor-specific transgene expression, minimizing toxicity to normal cells, compared to the universal promoters. The following results were obtained from the present study.

- 1) In vitro and in vivo administration of chimeric vectors in which hTERT promoter is linked to apoptosis-inducing genes, such as Caspase, FADD or Bax successfully induce apoptosis in cancer cells with damaging normal cell.
- 2) The binary adenovirus system using two vectors, Ad/GT-BAX and Ad/hTERT-GV16 augmented the anti tumor-efficacy.

3) The transfection of the vector designed to drive MCP-1 gene by hTERT promoter induced the expression of MCP-1 more extensively, compare to CMV-promoter. The multidisciplinary treatment of therapeutic vectors with MCP-1 gene and cisplatin suppressed significantly tumor growth in vivo.

Research Products (16 results)

All Other
All Publications

[Publications] Kyo S, Inoue M: "How to inhibit telomerase activity for cancer therapy"Current Medical chemistry. 2. 613-626 (2002) ▼

[Publications] Kyo S, Inoue M: "Complex regulatory mechanisms of telomerase activity"Oncogene. 21. 688-697 (2002) ▼

[Publications] Komata T, Kondo Y, Inoue M, et al.: "Caspas-8 gene therapy using hTERT for maligne glicma cells"Human gene Therapy. 13. 1015-1025 (2002) ▼

[Publications] Yatabe N, Kyo S, Inoue M, et al.: "2-5A antisenes therapy directed against h-telomerase RNA in bibits telomerase activits in cancer cells"Cancer Gene Therapy. 9. 624-630 (2002) ▼

[Publications] Komata T, Kondo Y, Inoue M, et al.: "Treatment of maligant cells with transfeve of active caspase 6 using hTERT gene"Cancer Research. 61. 5796-5802 (2001) ▼

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[Publications] Komata T., Kondo Y., Kanzawa T., Hirohata S., Koga S., Sumiyoshi H., Srinivasula S.M., Barna B.P., Alnemri E.S., Germano I.M., Takakura M., Inoue M., Alnemri E.S., Shay J.W., Kyo S. and Kondo S.: "Treatment of malignant glioma cells with the transfer of constitutively active caspase-6 using the human telomerase catalytic subunit (hTERT) gene."Cancer Res. 61. 5796-5802 (2001) ▼

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[Publications] Maida Y., Kyo S., Kanaya S., Zhuo Wang, Takakura M., Yatabe N., Tanaka M., Nakamura M., Ohmichi M., Gotoh M., and Inoue M.: "Direct activation of telomerase by EGF through Ets - mediated transactivation of TERT via MAP kinase signaling pathway"Oncogene. 21. 4071-4079 (2002) ▼

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[Publications] Yatabe N., Kyo S., Kondo S., Kanaya T., Wang Z., maida Y., Takakura M., Nakamura M., Tanaka M. and Inoue M.: "2-5A antisense therapy directed against human telomerase RNA inhibits telomerase activity and induces apoptosis without telomere impairment in cervical cancer cells."Cancer Gene Ther. 9. 624-630 (2002) ▼

[Publications] Komata T., Kondo Y., Hirohata S., Koga S., Sumiyoshi H., Takakura M., Inoue M., Barna B.P., Germano I.M., Kyo S., Kondo S.: "Caspase-8 gene therapy using human telomerase reverse transcrptase promoter for malignant glioma cells."Human Gene Therapy. 13. 1015-1025 (2002) ▼

[Publications] Kyo S., Inoue M.: "Review Article: Complex regulatory mechanisms of telomerase activity in normal and cancer cells."Oncogen. 21. 688-697 (2002) ▼

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