Investigation of the significance of the loss of 18p which is frequently observed in colorectal cancer tissue

2003 Fiscal Year Final Research Report Summary

Investigation of the significance of the loss of 18p which is frequently observed in colorectal cancer tissue.

Research Project

Project/Area Number

14370381

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Digestive surgery

Research Institution

KANAZAWA UNIVERSITY

Principal Investigator

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Project Period (FY)

2002 – 2003

Keywords

colorectal cancer / chromosome 18 / loss of heterozygosity / allelic loss / microsatellite marker / thymidylate synthase / polymerase chain reaction / gene polymorphism

Research Abstract

We examined the loss of heterozygosity of chromosome 18p in 177 normal colonic mucosa and corresponding colorectal cancer tissue by PCR using microsatellite markers D18S59,D18S476,D18S481,D18S52,D18S452 and D18S57. Furthermore, the number of the tandem repeat sequences existing in the non-translational region of the TS mRNA was determined by the PCR under the conditions described elsewhere. Of 172 normal colonic mucosa, 90 showed the TS genotype of double repeat(2R)/triple repeat(3R). The 18p allelic loss, including TS locus, was observed 58 samples corresponding to the 90 normal mucosa of 2R/3R TS genotype. The frequency of the loss of TS locus was 30%(12/40) for 2R/loss, and 48%(19/40) for 3R/loss. The frequency of allelic loss including TS locus is comparable for the cancer tissues with 2R/2R or 3R/3R. Consequently, the TS genotype should not affect the LOH of 18p including TS locus. The extent of the loss of 18p in colorectal cancer tissue estimated using 7 kinds of microsatellite markers was very wide. It was quite difficult to find new gene(s) contributing to the carcinogenesis of colorectal cancer. The allelic loss did not affect the expression of TS mRNA or TS protein, regardless the extent of the loss of 18p. The expression of TS protein was significantly high in the colorectal cancer tissue which had TS gene with 3R. It seemed that the expression of TS mRNA significantly contributed to the high expression of TS prortein.

Research Products (13 results)

All | Other

All | Publications (13 results)

[Publications] Kazuya Maeda, et al.: "Hypermethylation of the CDKN2A gene in colorectal cancer is associated with shorter survival"Oncol Report. 10巻4号. 935-938 (2003)

[Publications] Kenji Omura: "Clinical implications of dihydropyrimidine dehydrogenase (DPD) activity in 5-FU-based chemotherapy : mutations in the DPD gene, and DPD inhibitory fluoropyrimidines"International Journal of Clinical Oncology. 8巻3号. 132-138 (2003)

[Publications] Kaname Ishiguro, et al.: "Microsatellite instability in gastric cancer is closely associated with hMLH1 hypermethylation at the proximal region of the promoter"International Journal of Molecular Medicine. 12巻4号. 603-608 (2003)

[Publications] Chikashi Hiranuma: "Hypermethylation of the MYOD1 gene is a novel prognostic factor in patients with colorectal cancer"International Journal of Molecular Medicine. 13巻3号. 413-417 (2003)

[Publications] 大村 健二: "Biochemical modulationとDIF"コンセンサス癌治療. 2巻3号. 166-167 (2003)

[Publications] 大村 健二: "原発巣からみた転移性肝癌に対する治療方針大腸癌化学療法・免疫療法"日本外科学会雑誌. 104巻10号. 730-734 (2003)

[Publications] 大村 健二: "葉酸とその周辺代謝 がんの化学療法と生物学の接点"株式会社セプリ総研. 106 (2004)

[Publications] Kazuya Maeda, Kazuyuki Kawakami, Yoshinori Ishida, Kaname Ishiguro, Kenji Omura, Go Watanabe: "Hypermethylation of the CDKN2A gene in colorectal cancer is associated with shorter survival."Oncology Report. (4). 935-938 (2003)

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[Publications] Kenji Omura: "Biochemical modulation ad DPD inhibitory fluoropyrimidine."Consensus of cancer therapy. 2(3). 166-167

[Publications] Kenji Omura: "Treatment of metastatic liver cancer : Chemotherapy and immunotherapy."Nippon Kekagakkai. 104(10). 730-734 (2003)

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