核酸・葉酸代謝関連酵素の包括的遺伝子解析による消化器癌の個別化医療開発

メタデータ	言語: Japanese
	出版者:
	公開日: 2022-05-16
	キーワード (Ja):
	キーワード (En):
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URL	https://doi.org/10.24517/00057340

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2007 Fiscal Year Final Research Report Summary

Genetic and epigenetic analyses of folate and nudeotide metabolizing enzymes in gastrointestinal cancer

Research Project

Project/Area Number

18591458

Research Category

Grant-in-Aid for Scientific Research (C)

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)

2006 – 2007

Keywords

colorecral cancer / Thymidvlate synthase / gene polymorphism / loss of heterozygosity / methylator phenotype / gamma-glutamyl hydrolase / DNA methylation

Research Abstract

In this project, we analyzed mRNA expression and gene polymorphisms of Nate and nucleotide metabolizing enzymes in primary colorectal cancer (CRC). The results of the genetic analyses were then compared to dinical information and epigenetic alterations. There were two major findings in the study. Firstly, we found that loss of heterozygosity (LOH) on Thymidylate synthase (TS) locus is significant prognostic factor in CRC and influences TS genotype on tumor. The hundred and twenty six CRC cases were analyzed for VNTR and SNP on TS gene, and for the LOH status on TS locus.2G allele was rare and no 2R allele with G C SNP in the first tandem repeat was found in our population. Therefore, SNP in 2R allele was not considered and the genotyping was

conducted with 3 allele types, 2R, 3G, and 3C, in the following analyses. There was no statistically significant association between the TS genotype in normal and clinicopathological features. TS LOH was observed in 90(58.0%) tumor samples. TS LOH p ···▾ More

Research Products (30 results)

All | 2008 | 2007 | 2006

All | Journal Article (16 results) (of which Peer Reviewed: 8 results) | Presentation (13 results) | Patent(Industrial Property Rights) (1 results)

[Journal Article] Low expression of gamma glutamyl hydrolase mRNA in primary colorectal cancer with the CpG island methylator phenotype. 2008

[Journal Article] Low expression of gamma glutamyl hydrolase mRNA in primary colorectal cancer with the CpG island methylator phenotype 2008

[Journal Article] Detection of epidermal growth factor receptor variations by partially denaturing HPLC. 2007

[Journal Article] Inhibition of GSK-3β activity attenuates proliferation of human colon cancer cells in rodents. 2007

[Journal Article] Methylation levels of LINE-1 repeats and CpG island loci are inversely related in normal colonic mucosa. 2007

[Journal Article] Detection of epidermal growth factor receptor variations by partially denaturing HPLC 2007

[Journal Article] Inhibition of GSK-3B activity attenuates proliferation of human colon cancer cells in rodents 2007

[Journal Article] Methylation levels of LINE-1 repeats and CpG island loci are inversely related in normal colonic mucosa 2007

[Journal Article] DNA hypermethylation in the normal colonic mucosa of patients with colorectal cancer 2006

[Journal Article] Methylenetetrahydrofolate reductase 677C/T gene polymorphism, gastric cancer susceptibility and genomic DNA hypomethylation in an at-risk Italian population 2006

[Journal Article] Pharmacogenetic profiling and clinical outcome of patients with advanced gastric cancer treated with palliative chemotherapy 2006

[Journal Article] APC gene methylation is inversely correlated with features of the CpG island methylator phenotype in colorectal cancer 2006

[Journal Article] DNA hypermethylation in the normal colonic mucosa of patients with colorectal cancer 2006

[Journal Article] Methylenetetrahydrofolate reductase 677C/T gene polymorphism, gastric cancer susceptibility and genomic DNA hypomethylation in an at-risk Italian population 2006

[Journal Article] Pharmacogenetic profiling and clinical outcome of patients with advanced gastric cancer treated with palliative chemotherapy 2006

[Journal Article] APC gene methylation is inversely correlated with features of the CpG island methylator phenotype in colorectal cancer 2006

[Presentation] 消化器がんの新しい治療標的GSK3βの発現,活性,機能解析. 2007

[Presentation] Methylation level of LINE-1 repeats as a prognostic factor for the patients with colorectal cancer. 2007

[Presentation] Inhibition of glycogen synthase kinase 3β(GSK3β)attenuates proliferation of human colon cancer cells in rodents. 2007

[Presentation] Methylation level of LINE-1 repeats as a prognostic factor for the patients with colorectal cancer 2007

[Presentation] Inhibition of glycogen synthase kinase 3B (GSK3B) attenuates proliferation of human colon cancer cells in rodents 2007

[Presentation] Wntシグナル制御破綻に関わる新しい分子細胞機構の解明と大腸がん制御への展開. 2007

[Presentation] mRNA expression of gamma glutamyl hydrolase(GGH)is negatively associated with DNA methylation status in primary colorectal cancer. 2007

[Presentation] Deregulated GSK3β activity in colorectal cancer: its association with tumor cell survival and proliferation. 2007

[Presentation] mRNA expression of gamma glutamyl hydrolase (GGH) is negatively associated with DNA methylation status in primary colorectal cancer 2007

[Presentation] Deregulated GSK3B activity in colorectal cancer : its association with tumor cell survival and proliferation 2007

[Presentation] 遺伝子多型を利用した抗癌剤のtailored molecular modulation法開発 2006

[Presentation] Development of tailored molecular modulation for 5-FU by targeting Thymidylate synthase gene polymorphism 2006

[Presentation] チミジル酸合成酵素の遺伝子多型とLOH解析に基づく大腸癌の予後判定と化学療法の効果予測. 2006

[Patent(Industrial Property Rights)] 多型部位の遺伝子配列及びヘテロ接合性の消失の判定法, 並びにそれに基づいた癌に対する医薬 2007

URL: https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-18591458/185914582007kenkyu_seika_hokoku_

Published: 2010-02-03