Necrogenesis in human astrocytic tumors especially based on decoy receptor 3 gene amplification and expression

2001 Fiscal Year Final Research Report Summary

Necrogenesis in human astrocytic tumors especially based on decoy receptor 3 gene amplification and expression

Research Project

Project/Area Number

12671346

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Cerebral neurosurgery

Research Institution

Kanazawa University

Principal Investigator

TACHIBANA Osamu Department of Neurosurgery Kanazawa University School of Medicine Assistant Proffesor(Kohshi), 医学部・附属病院, 講師 (40211362)

Project Period (FY)

2000 – 2001

Keywords

decoy receptor 3 / glioblastoma / Fas / Fas-ligand

Research Abstract

Decoy receptor 3 (DcR3), a secreted member of the tumor necrosis factor receptor superfamily, is amplified at high frequency in human lung and colon. In this study, I examined the DcR3 gene amplification by semi-quantitative genomic PCR in 57 human astrocytic brain tumors, including 34 glioblastomas and DcR3 mRNA expression by real-time semi-quantitative reverse transcription-PCR in 24 astrocytic brain tumors, including 13 glioblastomas. DcR3 gene amplification was detected in none of 7 (0%) low-grade astrocytomas, 1 of 17 (5.9%) anaplastic astrocytomas, and 7 of 34 (20.6%) glioblastomas. DcR3 mRNA tend to express high in glioblastomas than low grade astrocytomas. A well correlation between DcR3 gene amplification and mRNA expression was found in 24 astrocytic tumors. Expression of DcR3 mRNA in human astrocytic tumors was dependent of gene amplification. Immunoreactivity to Fas was observed in a large number of glioblastoma cases. These results suggest that high DcR3 expression with gene amplification might be responsible to malignant featuresin high grade astrocytic tumors, that may be attributed to escape from FasL-Fas mediated cell death.

Published: 2003-09-16