学位論文抄録
Abstract of Thesis

Diversity in antigen recognition by and immune response of the human CD4+ T cell clone
（ヒト CD4 陽性 T 細胞クローンの認識抗原ペプチドと免疫応答の多様性）

※If the Thesis is written in English, its title should be English with a Japanese translation provided in parentheses

※Write your name exactly as it appears on your student ID card.
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Kana pronunciation

Name

Department of XX, Medical Sciences Major,
Doctoral Course of the Graduate School of Medical Sciences,
Kumamoto University

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※Academic advisors should indicate their present affiliation

※If your academic advisor(s) have retired or left Kumamoto University,
please write both of your former professor and introductory professor.

A sample of an abstract written in English A4 版

Abstract of the Thesis

Background and Purpose: In order to establish cancer immunotherapy, it is important to identify the tumor-associated antigens (TAAs) that are strongly expressed in the tumor cells but not in the normal cells. In this study, to establish an effective anticancer immunotherapy, we tried to identify the ideal TAA of pancreatic cancer.

Methods: Based on a previous genome-wide cDNA microarray analysis of pancreatic cancer, we focused on Cadherin 3 (CDH3)/P-cadherin as a novel candidate TAA for anticancer immunotherapy. To identify the HLA-A2 (A*0201)-restricted CTL epitopes of CDH3, we used HLA-A2.1 (HHD) transgenic mice (Tgm). Furthermore, we examined the cytotoxicity against the tumor cells in vitro and in vivo of CTLs specific to CDH3 induced from HLA-A2-positive healthy donors and cancer patients.

Results: CDH3 was overexpressed in the majority of pancreatic cancer and various other malignancies, including gastric and colorectal cancers, but not in their non-cancerous counterparts, or in many normal adult tissues. In the experiment using HLA-A2.1 Tgm, we found that the CDH3-4655-663 (FILPVLGAV) and CDH3-7757-765 (FIIENLKAA) peptides could induce HLA-A2-restricted CTLs in Tgm. In addition, peptides-reactive CTLs were successfully induced from PBMCs by in vitro stimulation with these two peptides in HLA-A2 positive healthy donors and cancer patients, and these CTLs exhibited cytotoxicity specific to cancer cells expressing both CDH3 and HLA-A2. Furthermore, the adoptive transfer of the CDH3-specific CTLs could inhibit the tumor growth of human cancer cells engrafted into NOD/SCID mice.

Conclusions: The CDH3 is a novel TAA useful for broad-spectrum cancer immunotherapy for pancreatic, gastric and colorectal cancers.