Seminar

免疫識別学・大学院セミナー 2

Application of an Artificial Antigen-Presenting Cell to an Investigator-Initiated Clinical Trial of Adoptive Cell Therapy: *Translational and Clinical Research*

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Date: January 28th (Wed), 2009. 6:00～7:00 pm

Place: New Med.Edu.& Lib. Bldg., 4 th Floor, Seminar room-1

研究者主導型養子免疫療法臨床試験への

人工抗原提示細胞の臨床応用

その橋渡し研究と臨床研究

講師：平野　直人　博士

日時：平成 21 年 1 月 28 日（水）18:00 ～19:00

会場：新・図書講義棟・4 階　ゼミ室-1(白川側)

(Abstract, セミナー要旨)

Based on the results presented in Seminar 1, we produced a clinical grade artificial antigen-presenting cell (aAPC) under cGMP guidelines and fulfilled all regulatory requirements including review by the NIH Office of Biotechnology Activities and the FDA. We are currently conducting a "first in human" clinical trial in metastatic melanoma with aAPC-generated MART1 CTL (ClinicalTrials.gov number, NCT00512889). Purified $CD8^+$ T cells are stimulated every week with peptide-pulsed aAPC and expanded with IL-2/IL-15 to yield polyclonal MART1 CTL for infusion after three weeks. Subjects are to receive two infusions with the 2nd graft produced from T cells harvested 14 days after the 1st infusion. To date, $>4x10^9$ CTL with potent effector function and memory phenotype were successfully generated for all enrolled subjects. Five CTL infusions were administered to three subjects at $2x10^8/m^2$ with the median MART1 multimer positivity of 39%. Clonotypic analysis indicates that adoptively transferred "young" MART1 CTL have acquired the capacity to persist *in vivo* longer than 6 months without lymphodepletion or cytokine administration and traffic and localize to sites of disease. Intriguingly, we were able to identify MART1 CTL clonotypes that were not detectable in the grafts but emerged after CTL infusion, indicating that infused MART1 CTL may provoke *de novo* antitumor response. Our experience in translational and clinical research will be presented from the standpoint of regulatory milestones, grant support, the ongoing clinical trial and future directions.

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本セミナーを、大学院・博士課程講義科目の造血免疫制御学理論および移植免疫学特論の補講といたします。補講としての受講認定を希望する博士課程学生の皆様方には、会場の受講者記名リストに署名ください。

また、このセミナーは、大学院教育改革支援プログラム「臨床・基礎・社会医学一体型先端教育の実践」の一環として実施されます。