Seminar

免疫識別学・大学院セミナー１

Development of a Precisely Defined Artificial Antigen-Presenting Cell: *Basic Research*

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(Dana-Farber Cancer Institute, Harvard Medical School)

Date: January 27th (Tue), 2009.　5:00～6:00 pm

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

人工抗原提示細胞の開発：その基礎研究

講師：平野　直人　博士

日時：平成 21 年 1 月 27 日（火）17:00 ～18:00

会場：新・図書講義棟・4 階　ゼミ室-1（白川側）

（**Abstract,** セミナー要旨）

Adoptive immunotherapy of *ex vivo* expanded cytotoxic T lymphocytes (CTL) holds great promise in the treatment of cancer and infectious disease. Generating antigen specific CTL for adoptive immunotherapy requires the use of antigen presenting cells (APC) such as autologous dendritic cells, activated B cells, or artificial APC (aAPC) engineered to express immunoaccessory molecules. Although clearly useful, each approach presents certain drawbacks preventing their widespread application. We have developed a unique human cell-based aAPC that can naturally process and present class I peptides and uniquely support the priming and prolonged expansion of large numbers of peptide-specific $CD8^+$ T cells. CTL specific for a wide array of HLA-A2 restricted peptides derived from multiple tumor-associated antigens are readily established from A2 positive donors. Antigen-specific CTL displayed memory phenotype consistent with *in vivo* persistence, possessed potent effector function, and specifically recognized tumor cell lines. Surprisingly, CTL can be maintained *ex vivo* for a prolonged period of time (>1 year) without any feeder cells. Based on these findings, we hypothesized that aAPC-generated CTL will persist in vivo, traffic to the lymph node and tumors, and cause effective antitumor responses in patients when adoptively transferred. Our own experience in translational and clinical research using aAPC will be presented in the following Seminar 2.

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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。