

## 第41回日本免疫学会学術集会

2012 Annual Meeting of the Japanese Society for Immunology

クリニカルセミナー / Clinical Seminar

# Immunotherapy of cancer through the adoptive transfer of gene-modified T lymphocytes : The UPenn experience

座長  
Chair

東京大学医学部附属病院  
免疫細胞治療学(メディネット)講座 特任准教授

**垣見 和宏 先生**

Project Associate Professor, Department of Immunotherapeutics,  
The University of Tokyo Hospital

Kazuhiro Kakimi, M.D., Ph.D.

演者  
Speaker

Perelman school of medicine,  
University of Pennsylvania

**Michael Kalos, Ph. D.**

2012.12.7 **FRI**

神戸国際会議場 **3階 C会場**

Kobe International Conference Center, 3rd floor, Room C

**12:00 ~ 13:00**

お弁当との引き換えには**チケット**が必要です。

**Ticket** ▶ **Place:** 神戸国際会議場 3階 Kobe International Conference Center 3rd floor **Time:** 7:30~11:10

共催：特定非営利活動法人 日本免疫学会 / 株式会社 メディネット

Co-sponsored by Japanese Society for Immunology and MEDINET Co., Ltd.

# IMMUNOTHERAPY OF CANCER THROUGH THE ADOPTIVE TRANSFER OF GENE-MODIFIED T LYMPHOCYTES: THE UPENN EXPERIENCE

**Michael Kalos, Ph.D.**

**Perelman School of Medicine, University of Pennsylvania**

Harnessing the potential of T cells to target and eliminate cancer has been a long-standing objective of immunotherapy. The adoptive transfer of ex-vivo expanded T cells engineered to potently recognize tumors is one promising conceptual approach that has the potential to overcome limitations associated with central and peripheral immune tolerance. At the University of Pennsylvania our programmatic efforts have focused on engineering T cells to target cancers via chimeric antigen receptors (CAR) and affinity-enhanced T cell receptors (TCR), using both stable transient gene delivery approaches.

This presentation will focus on a discussion of data from current and ongoing clinical trials to evaluate the safety, feasibility, and preliminary efficacy of our programmatic approaches to target cancer using engineered T lymphocytes. We will focus principally on published and emerging data from our ongoing clinical efforts to target B cell leukemias using T cells redirected against CD19 via CAR that contain 4-1-BB and TCR zeta signaling domains (CART19 cells), a setting where we have observed robust and sustained complete responses in patients with advanced and treatment refractive disease. We will additionally discuss data from early-stage clinical trials to target other hematological and solid malignancies using both CAR and TCR-based approaches.

(2012 Annual Meeting of the Japanese Society for Immunology, Abstract)

**Chair Kazuhiro Kakimi, M.D., Ph.D.**

## EDUCATION and PROFESSIONAL EXPERIENCE

<b>1983-1988</b>	M.D., Kyoto University, Kyoto, Japan
<b>1988-1991</b>	Resident, Department of Internal Medicine, Kyoto University Hospital, Kyoto, Japan
<b>1991-1995</b>	Ph.D. Course, Field of Medical Science, Kyoto University
<b>1995 -1998</b>	Assistant Professor, Department of Bioregulation School of Medicine, Mie University
<b>1996-2001</b>	Research Associate, Department of Molecular and Experimental Medicine, The Scripps Research Institute
<b>2001-2004</b>	Assistant Professor, Department of Internal Medicine, Tokyo Medical University
<b>2001-Current</b>	Adjunct Assistant Professor, Department of Molecular and Experimental Medicine The Scripps Research Institute
<b>2004-Current</b>	Project Associate Professor, Department of Immunotherapeutics, The University of Tokyo Hospital

**Speaker Michael Kalos, Ph.D.**

## Education

<b>1983</b>	B.S. University of Minnesota (Biochemistry)
<b>1990</b>	Ph.D. University of Minnesota Medical School (Microbiology)

## Postgraduate Training and Fellowship Appointments

<b>1990-1994</b>	Division of Basic Sciences, Fred Hutchinson Cancer Research Center
<b>1994-1997</b>	Division of Clinical Research, Fred Hutchinson Cancer Research Center

## Faculty Appointments

<b>2004-2006</b>	Associate Professor in Residence, Division of Hematopoietic Cell Transplantation, City of Hope National Medical Center, Duarte, CA
<b>2006-2008</b>	Associate Professor in Residence, Division of Cancer Immunotherapeutics and Tumor Immunology, City of Hope National Medical Center, Duarte, CA
<b>2009-Current</b>	Adjunct Associate Professor, Department of Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

## Hospital and Administrative Appointments

<b>2004-2008</b>	Director, Clinical Immunobiology Correlative Studies Laboratory, City of Hope National Medical Center
<b>2005-2008</b>	Co-Director, Core E, City of Hope Lymphoma SPORE grant
<b>2008-Current</b>	Director, Translational and Correlative Science Laboratory, University of Pennsylvania School of Medicine

## Other Appointments

<b>1998-2000</b>	Staff Scientist, Corixa Corporation, Seattle, WA
<b>2000-2004</b>	Senior Staff Scientist, Corixa Corporation, Seattle, WA
<b>2004-2007</b>	Associate Member, City of Hope Comprehensive Cancer Center, City of Hope National Medical Center, Duarte, CA
<b>2009-Current</b>	Member Institute for Translational Medicine and Therapeutics, University of Pennsylvania
<b>2009-Current</b>	Member, Abramson Cancer Center, University of Pennsylvania School of Medicine
<b>2009-Current</b>	Associate Member, Abramson Family Cancer Research Institute, University of Pennsylvania School of Medicine