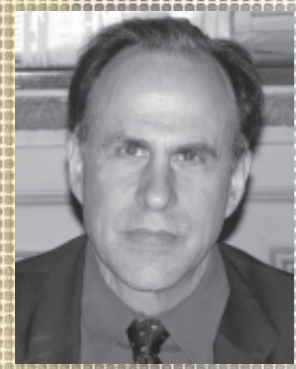
SIgN Visiting Scientist

Date : 6th November 2007 (Tuesday)
Time : 11.00 am – 12.00 pm
Venue : Breakthrough Theatrette
Level 4 @ Matrix Building
30 Biopolis Street, S(138671)



Prof. Robert M. Hoffman

Seminar Title

In vivo Molecular Imaging with Fluorescent Proteins: New Visual Targets for Drug Discovery

ABSTRACT

Naturally fluorescent proteins have revolutionized biology by enabling what was formerly invisible to be seen clearly. These proteins have allowed us to visualize, in real time, important aspects of cancer in living animals, including tumor cell mobility, invasion, metastasis and angiogenesis. These multi-colored proteins have allowed the color-coding of cancer cells growing *in vivo* and enabled the distinction of host from tumor with single-cell resolution. Visualization of many aspects of cancer initiation and progression *in vivo* should be possible with fluorescent proteins.

In vivo imaging with fluorescent proteins has been shown to be the most powerful imaging technology for small animals. Fluorescent protein imaging can be used for both macro imaging as well as cellular and subcellular imaging in the live mouse. Tumor growth and metastasis can be followed both at the macro, cellular, and subcellular levels in the live mouse. New drug targets of cancer cell trafficking, extravasation, and other aspects of cellular and subcellular dynamics can be visualized when evaluating novel candidate agents for cancer as well as other diseases. The imaging technology is particularly effective when used with instrumentation that can perform both macro and micro imaging on live small animals, in particular the Olympus OV100. This new technology heralds a new era in the discovery and evaluation of new anticancer drugs.

BIOGRAPHY

Dr. Robert M. Hoffman received his PhD degree in 1971 at the Harvard University, California. His post doctoral positions were at Harvard, Massachusetts General Hospital, Academy of Sciences (Moscow) and the Weizmann Institute of Science in Israel.

Currently he is both professor at the Department of Surgery at the University of California and President of AntiCancer Inc. He has been awarded the honorary professorship at the Harbin Medical University and is honorary member of the Keio University Tokyo.

Dr Hoffman has been a pioneer in groundbreaking scientific discoveries of animal models for cancer research, in vitro hair growth models from human and animal skin, the use of GFP in in-vivo models, single enzyme assay for homocystine, the potency of hair follicle stem cells to form neurons (and other non hair follicle cells) and work in bacterial monotherapy of cancer.

His laboratory has 21 PhDs working on developments of ”patient like” mouse models of human metastatic and angiogeneses tumors, technologies like surgical orthotopic implantation (SOI) of human cell lines and patient tumors and multi color fluorescence proteins to visualize cellular dynamics in vivo.

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