平成28年度　医学・生命科学セミナー
Medical and Life Science Seminar FY2016

The Graduate School of Medical Sciences
Training and Educational Program
for Eradication of AIDS Course
Practice on AIDS VI

The 13th IRCMS Seminar

Immunogenetic variation that impacts human health and disease: a tricky balancing act

Dr. Mary Carrington, Ph.D.

Senior Investigator,
Cancer and Inflammation Program,
Center for Cancer Research,
National Cancer Institute, NIH

Date: Friday, April 1, 2016
Time: 15:00 - 16:00
Venue: 2F Seminar Room,
Center for AIDS Research (CAIDS)

Summary:

Variation in the HLA class I and II genes has the greatest influence genome-wide on outcome of many diseases, including HIV infection. The benefits of a protective variant against one disease can increase the risk of another. Allelic effects of the HLA class I and II genes on disease protection/susceptibility have been thoroughly documented over decades, but more recently it has become evident that other polymorphisms within the region also contribute to disease outcome, such as those involved in innate receptor recognition and regulation of cell surface expression levels. I will describe the effects of variation within and near the HLA class I genes on various diseases, concentration on HIV disease. Three examples of opposing effects will be presented: HLA-B*57, which is an allele of the highly polymorphic HLA-B gene that confers protection against HIV-1, but associates with risk of psoriasis and abacavir hypersensitivity; variants determing HLA-C expression levels, where high expression associates with protection against HIV-1, but risk of Crohn's Disease and graft vs. host disease; and Killer cell immunoglobulin-like receptor gene variation that protects against KSHV infection, but increases risk of Kaposi's sarcoma.

Organized by;
Professor Masafumi Takiguchi
Takiguchi Project Laboratory
Center for AIDS research
Email masafumi@kumamoto-u.ac.jp

Inquiries;
International Research Center
for Medical Sciences (IRCMS)
TEL 096-373-6847
Email ircms@jimu.kumamoto-u.ac.jp

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The 14th IRCMS Seminar

New insights into protective immunity in infant HIV-1 and adult HIV-2 infection

Professor Sarah L Rowland-Jones,
M.D., Ph.D.
Nuffield Department of Medicine,
University of Oxford

Date: Friday, April 1, 2016
Time: 16:10 - 17:10
Venue: 2F Seminar Room,
Center for AIDS Research (CAIDS)

Summary:

Progress towards an effective vaccine against HIV has been hampered by a limited understanding of protective immunity towards the virus. We have studied HIV-2 infection as a model for effective control of HIV in humans: whilst HIV-2 can cause AIDS that is clinically indistinguishable from HIV-1, up to 40% of infected people maintain long-term viral control and have a normal life expectancy. I will present recent data about the T-cell response to HIV-2 in viral controllers and also discuss the role of host restriction factors from the TRIM family of proteins in HIV-2 infection. Infants with untreated HIV infection progress rapidly and 50% will die by the age of 2 years, which has led to speculation that the T-cell response to HIV is functionally impaired in infants. Recent data on viral evolution from a historic cohort of HIV+ mother-infant pairs will be presented that shows that T-cell responses exert selection pressure on the virus from early in infection, but this only occurs in infants with little evidence of immune suppression.

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Center for AIDS research
Email masafumi@kumamoto-u.ac.jp

Inquiries;
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