

17th RAP Seminar

The 17th Seminar on RIKEN Center for Advanced Photonics

Language: Japanese

Date : Nov.21 (Fri), 2014, 16:00 -17:00

Location : Cooperation Center, 3F, W319, Wako Campus, RIKEN
(理研 和光キャンパス 研究交流棟3階会議室 W319)

Title: **Light meets immunology: introduction
of a new type of immune cell**

免疫学と光の接点：新種の免疫細胞の紹介

Speaker : **Dr. Shigeo KOYASU**
(Director, RIKEN Center for Integrative Medical Sciences (IMS))

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(理研 統合生命医科学研究センター・センター長)

Immunologists use variety of lights for their studies. Those include various kinds of microscopes, flow cytometry and *in vivo* imaging. My laboratory also uses those techniques to study the behavior of immune cells. I will introduce you our recent studies on a new cell type that we discovered several years ago and demonstrate how the light helps our studies. Lymphocytes are a subset of white blood cells that are important in the combat against various infections. When they behave in irregular manners, they harm our body and induce various diseases such as autoimmune diseases and allergic diseases. We have $\sim 10^{12}$ lymphocytes in our body and each cell recognizes a distinct object (antigen) using a protein molecule called antigen receptor that specifically binds the object. This is the basis why our body is able to fight against many different invading microbes. Recent studies have revealed, however, that there are lymphocytes that do not have antigen receptor yet play important roles in infection and diseases. I will introduce the story of our discovery of such a new cell type and how we use lights in our studies. In addition, I will briefly introduce you IMS, a newly formed research center in RIKEN.



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