The emerging field of regulatory B cell
— from contact dermatitis to melanoma —

Friday, December 9, 2016 15:35-16:35
Room B, 2F Tachibana
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The hallmark of B cells is the ability of secreting antibodies, and it is widely accepted that B cells play a central role in “humoral immunity”. Nonetheless, studies have clarified that other functions of B cells are no less important. They include antigen presentation and cytokine secretion. Thereby, B cells have multiple ways to enhance immune reaction to eliminate harmful pathogens efficiently.

In contrast, “regulatory B cells” that suppress immune responses have also been recognized as an important new component of the immune system. These notions have led to the recognition that B cells are engaged in a wider variety of disease than had been considered. For example, contact hypersensitivity has been considered as a prototypic form of delayed-type hypersensitivity, a classic T cell–mediated inflammatory reaction where B cells and antibodies are not involved in the process. However, unexpectedly, recent studies revealed that B cells also have a critical inhibitory function in this response. Regulatory B cells also exert potent inhibitory functions in murine models of autoimmune diseases such as lupus, scleroderma, and psoriasis. Regulatory B cells appear important in human as well, since there are a considerable number of reports describing development/worsening of uninfectious, inflammatory diseases after B cell-depletion therapy.

B cells also exert complex functions in tumor immunity. While B cells can suppress tumor development, regulatory B cells attenuate immune responses in a tumor environment. Thus, “immune checkpoint inhibition” may also be a promising strategy in cancer therapy. In this seminar, the basic and clinical aspects of regulatory B cells in inflammatory diseases and cancer will be discussed.

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Major pathway

Sendai Airport
Sendai Airport Transit approx. 25 min. ¥ 650
Sendai Station
Subway Tozai-Line approx. 5 min.
International Center Sta. Walk approx. 1 min.
Sendai International Center

Guide map