**Role of the Microbiota in the Vaccination and Disease Pathogenesis**

Donghyun Kim

Department of Microbiology and Immunology and Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea

Microbial habitation in the human body begins immediately after birth, and adults are colonized by microbes outnumbering human cells. The intricate interactions between host cells and the commensal bacteria provide the host with many benefits. For example, protection of host from harmful bacteria, training of host immune system to recognize specifically foreign materials and conversion of otherwise indigestible food into energy and absorbable nutrients. Among their various functions, we reported a new role of the symbiotic bacteria and their intracellular receptor Nod2 in the intranasal and oral immunization. These days, we are studying on the role of microbiota in the organ-to-organ communication and the importance of microbial composition regulated by a genetic factor in the gut homeostasis by using inflammatory disease mouse model. Here, I will do general introduction about field of the microbiota and introduce specific examples about the role of the microbiota in the immune system. Then, I will summarize my published papers and following study about the role of microbiota in the mucosal vaccination and show initial findings among current our works related to various my interests. Finally, I will talk basic tips for microbiome research by physicians