慶應医学会例会

“Host microbiome interactions in health and disease”

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Abstract

The Elinav lab studies the microbiome, the immense microbial ecosystem that resides within the mammalian intestine and in other mucosal surfaces. This microbial community is dominated by Bacteria but also includes Archaea, Eukarya, and viruses. The Elinav group aims to decode how the vast microbiome repertoire functions in ways that benefit the host. The gut microbiota is shaped and regulated by multiple factors including our genomic composition, the local intestinal niche and multiple environmental factors including our nutritional repertoire and bio-geographical location. The mucosal immune system, as one such example, co-evolves with the microbiota from birth, and intimately interacts with it through multiple mechanisms that remain elusive to date. Importantly, it has been recently highlighted that dysregulation of a number of genetic or environmental factors leads to aberrant host-microbiome interactions, ultimately predisposing to diseases ranging from chronic inflammation, obesity, the metabolic syndrome and even cancer. The Elinav lab has identified various important mechanisms participating in the reciprocal regulation between the host and the intestinal microbiome, and demonstrated that disruption of these factors, in mice and humans, lead to dysbiosis and susceptibility to common multi-factorial disease. Understanding the molecular basis of host-microbiome interactions may lead to development of new microbiome-targeting treatments.

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総合医科学研究棟1階ラウンジ

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