

## **Microbial metabolite in metabolic diseases and drug responses**

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Increasing evidence indicates that interactions between the gut microbiota, diet, and the host contribute to the development of number of diseases from intestinal diseases, metabolic diseases and even to neurological disorders. Beyond the previous association studies between metabolic status and microbiota composition, accumulating data suggest that the microbiota may affect host metabolic phenotypes through the production of metabolites, which would contribute to the development or treatment of diseases. These bioactive microbial metabolites, sensitive fingerprints of microbial function, can act as inter-kingdom signaling messengers via penetration into host blood circulation and tissues. This seminar will focus on the microbially produced metabolite imidazole propionate and how it potentially contributes to the pathogenesis of type 2 diabetes. In addition, I will also describe our recent work about investigating potential role of imidazole propionate on inter-individual variations in anti-diabetic drug response.