

OS04-1 Novel natural products-initiated chemical biology

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Exploitation of novel small molecules from natural sources such as microbial metabolites, medicinal plants, and marine invertebrates has contributed to the discovery of lead molecules for drugs as well as research tools on chemical biology. Chemical biology based on forward/reverse chemical genetics is a new paradigm that accelerates drug development and the functional analysis of genes and proteins. Moreover, novel natural products with unique structural or biological characteristics attract both chemists and biologists, thereby developing the field of chemical biology. We have discovered several novel bioactive microbial metabolites by both *in vivo* cell-based phenotypic screenings and *in vitro* target-oriented screenings, and investigated their modes of action using a chemical genetics or a chemical genomics approach.

In this symposium, our recent studies on novel natural products inhibiting transforming growth factor β (TGF- β)-induced signaling pathway and angiogenic signaling pathway will be presented.