

## S55-6 **Drug development from fermentation natural products — Development of manufacturing technology bringing out the maximum potential abilities of microorganism —**

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Fermentation natural products have been historically studied as an attractive drug target, because of their chemical-structural and physicochemical diversity and a number of revolutionary drugs have been created from fermentation natural products so far. Those drugs are in an important position of the present drug-market from the view point of their contribution level to the medical care and their sales-size. And the diversity of fermentation natural product have been so much increased in recent years by applying the combination with chemical synthesis and/or enzyme reaction techniques or by applying the genetic engineering technique, that drugs from fermentation natural product are anticipated to represent the fulfillment of an unmet medical need in the future.

In this presentation, how to manage the problems which come out during the drug development of fermentation natural product is explained indicating the specific example, focusing on the development of manufacturing technology of the drug substance within many activities which should be accomplished for drug development. In development of the manufacturing technology of fermentation natural products, increasing the fermentation productivity to supply the required much amount of drug substance in economically feasible costs and controlling the impurities which are produced as by-products in fermentation or chemical reaction process are especially critical issues. In order to solve those problems, the technology development bringing out the maximum potential abilities of microorganism is considered to be an essential approach.