Poster Presentation 4

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Search for an “unlocker" compounds from microbial secondary metabolites, which release the ability of secondary metabolites production in fungi

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Purpose: Natural products are very attractive because they have a backbone that can't be easily obtained by synthesis and play an important role as a lead compound for drug development. Recent advances in genome analysis technology had clear that there are more than 30 biosynthetic gene clusters for secondary metabolites in fungus but most of them are silent. Accordingly, we are searching for natural compounds, which release the ability of secondary metabolite production in fungi, and we named the compound as an unlocker.

Methods: The compounds from the Omura natural products library were used for this screening. *Talaromyces siamensis* FKA-61 used as a test fungal strain, whose secondary metabolic profile was already analyzed. In the 1st screening, seed-cultured FKA-61 was inoculated to an agar plate which a non-conidiation medium (PDB^{+}), and then the paper disc method was used to evaluate the production of pigment and conidiation. In the 2nd screening, FKA-61 was incubated in the production media with and without the screening compound. The cultured broths were extracted with EtOH, and then analyzed the secondary metabolic profiles by LC/ESI-MS.

Results and conclusions: As a result of evaluating all 794 compounds in the 1st screening, 74 compounds passed. Twelve compounds were evaluated in the 2nd screening, and the result, one compound changed the secondary metabolic profile in a dose-dependent.