E307 Volatile Metabolites of *S. coelicolor* A3(2) Inhibited Aerial Mycelium Formation of Other Streptomycetes.

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When *S. coelicolor* A3(2) was cultured with other streptomycetes, such as *S. fulvissimus, S. spriroverticilliatus,* their formation of aerial mycelium was clearly inhibited, By adding KOH and $NaHCO_3$ into the plastic well made in agar plate, the inhibition was not observed. Potassium permanganate showed no effect. This results suggested that the inhibitory effect is due to volatile gas produced from *S. coelicolor* A3(2). CO_2 and volatile acids were suspected as the inhibitory metabolites. GC-Ms analysis showed that n-butyric acid is the major volatile metabolite from *S. coelicolor* A3(2). With 20 mM butyric acid in the plastic well, the formation of aerial mycelium of the two test strains could be inhibited. We could find that the content of n-butyric acid decreased about 8.6 times during aerial mycelilum formation of *S.coelicolor* A3(2). By adding glucose, an increase of the content of n-butyric acid and a delay of aerial mycelium formation were resulted simultaneously. Therefore, we suggest the volatile metabolites as a regulator of the differentiation of *S. coelicolor* A3(2).

E308 Purification and Biochemical Properties of Extracellular Keratinase from *Trichophyton mentagrophyte*

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The dermatophyte *Trichophyton mentagrophyte* isolated from a patient with tinea pedis was cultured in liquid mineral medium containing feather keratin as the only sources of C and N, from which a keratinolytic enzyme was obtained. The enzyme was partially purified by ammonium sulfate precipitation(70%) and gel filtration. Its molecular weight was estimated to be 35,000 by sodium dodecyl sulfate-poly acryl amide gel electrophoresis(SDS-PAGE) and the proteolytic activity was detected by SDS-PAGE copolymerized with gelatin. The optimal pH and temperature were 8.0 and 50℃, respectively. The enzyme was stable in the range of pH 6.0 to 10.0 and below 50℃, but lost most of the activity in 70℃. The studies of substrate activity showed that this proteinase also degrade gelatin, casein, azocoll and bovine serum albumin.