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No. 16 (1971)

Studies on the Metabolites of Griseofulvin-Producing Fungi (4) Dynamic Aspects of Biosynthesis and Metabolism of Griseofulvin in the Growing Cells Yoshihiro Sato, Yukiko Sakamoto, Toshiko Seki and Sayoko Shoda

> (Reported at 15 th Symposium on the Chemistry of Natural Products, Oct. 1971

The dynamic aspects of the biosynthesis and metabolism of griseofulvin were elucidated on *Penicillium urticae* by isotopic techniques. At first, ¹⁴C-2-CH₃CO₂Na was added at a definite time to the fermentation broth (growing cells) of *P. urticae*, and after culture of further 24 hr. or at the end of 12th day, the neutral and acidic metabolites were isolated by the usual procedures. The metabolites were analyzed by the liquid scintillation counting, radio gas chromatography, or auto-radiography of TLC. The results indicated that ¹⁴C-2-CH₃CO₂Na was incorporated into ergosterol mainly at the 5th day and into griseofulvin at the 7th to 11th days. The important result is the increase of total radioactivity of griseofulvin in the mycelium and the decrease of that in the filtrate, by analyses of radio activities. Further evidence of the above results was supplied by experiment using ¹⁴C-griseophenone C as a precursor of griseofulvin.

Consideration of these results indicates that griseofulvin is metabolized while it is biosynthesized, which is recognized as only secondary metabolite.