PRODUCTION OF FUNGICHROMIN BY *STREPTOVERTICILLIUM CINNAMOMEUM* SUBSP. *CINNAMOMEUM* NRRL B-1285

Sir:

Fungichromin was first described by A. A. TYDELL *et al.*[1], who reported that it was synthesized by an actinomycin-producing strain of *Streptomyces cellulosae* growing in a soybean meal-glucose medium. Fungichromin was fully characterized as a pentaene by A. C. COPE *et al.*[2,3]. We now wish to report that this polyene antibiotic is also synthesized by *Streptoverticillium cinnamomeum* subsp. *cinnamomeum* NRRL B-1285 (*Streptomyces cinnamomeus* forma *cinnamomeus*).

During our studies of the synthesis of the polypeptide antibiotic cinnamycin by this culture, fungichromin was found in the mycelia. The conditions used for the synthesis of fungichromin were similar to those described by R. G. BENEDICT *et al.*[4] for the synthesis of cinnamycin.

Fungichromin was isolated from the mycelia using conventional techniques. The identity of the isolated product as fungichromin was established by determinations of melting point, elemental analysis, bioautography, ultraviolet absorption spectrum and microbiological spectrum.

The presence of a polyene antibiotic in the mycelia of *Streptoverticillium cinnamomeum* subsp. *cinnamomeum* was anticipated since SHOTWELL *et al.*[5] had shown that the closely related *Streptoverticillium cinnamomeum* subsp. *azacoluta* (*Streptomyces cinnamomeus* forma *azacoluta*) produced the polypeptide antibiotic duramycin which is isolated from the cell-free broth and the heptaene antibiotic azacolutin which is isolated from the mycelia.

ROBERT S. ROBISON
ADORJAN ASZALOS
NANCY KRAEMER
SUZANNE M. GIANNINI

The Squibb Institute for Medical Research, New Brunswick, New Jersey, U. S. A.

This work was carried out as part of the effort on CCNSC Contract PH 43-65-1056.

We wish to acknowledge the assistance of Mr. JOSEPH ALICINO for the elemental analysis and Dr. DAVID FROST for assistance in the preparation of this paper for publication.

(Received January 25, 1971)

Literature Cited

1) TYTELL, A. A.; F. J. MCCARTHY, F. J. FISHER, W. P. BOLHOFER & J. CHARNEY: Fungichromin and fungichromatin: new polyene antifungal agents. Antibiot. Ann. 1954/1955: 716~718, 1955
2) COPE, A. C.; R. K. BLY, E. P. BURROWS, D. J. CEDER, E. CIGANEK, B. T. GILLIS, R. F. PORTER & H. E. JOHNSON: Fungichromin, complete structure and absolute configuration at C26 and C27. J. Amer. Chem. Soc. 84: 2170~2178, 1962
3) COPE, A. C. & H. E. JOHNSON: Fungichromin. Determination of the structure of the pentaene chromophore. J. Amer. Chem. Soc. 80: 1504~1506, 1958
4) BENEDICT, R. G.; W. DVONCH, O. L. SHOTWELL, T. G. PRIDHAM & L. A. LINDENFELSER: Cinnamycin, an antibiotic from *Streptomyces cinnamoneus* nov. sp. Antibiot. & Chemoth. 2: 591~594, 1952
5) SHOTWELL, O. L.; F. H. STODOLA, W. R. MICHAEL, L. A. LINDENFELSER, R. G. DOWORSCHACK & T. G. PRIDHAM: Antibiotics against plant disease. III. Duramycin, a new antibiotic from *Streptomyces cinnamoneus* forma *azacoluta*. J. Amer. Chem. Soc. 80: 3912~3915, 1958