

NOTES

THE IDENTITY OF ZYGOSPORIN
A AND CYTOCHALASIN D

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Workers at the Shionogi Research Laboratory have recently reported¹⁾ the isolation of zygosporin A, described as "a new antibiotic". They pointed out the similarity between the biological properties of zygosporin A and those of the cytochalasins²⁾, and noted that zygosporin A is isomeric with cytochalasins C and D³⁾. They claim, however, that "the chemical property of zygosporin A was found to differ from those of cytochalasins C and D".

In fact only one chemical reaction of cytochalasin C and none of cytochalasin D has been reported³⁾, and it is quite clear from its published¹⁾ infrared spectrum and m. p. (268~270°C) that zygosporin A is identical with cytochalasin D, m. p. 267~271°C, infrared spectrum shown in Fig. 1. The full chemical structures of cytochalasins C and D, which were first reported at a meeting at Sheffield University in September, 1967, are the subject of a paper submitted for publication in the Journal of the Chemical Society⁴⁾.

In view of the similarity between the biological properties and molecular formula of zygosporin A and those of cytochalasins C and D it is unfortunate that the Shionogi group did not attempt to compare their compound directly with cytochalasins C and D before claiming it as a new compound, with the resulting confusion of nomenclature.

References

- 1) HAYAKAWA, S.; T. MATSUSHIMA, T. KIMURA, H. MINATO & K. KATAGIRI: *Zygosporin A*, a new antibiotic from *Zygosporium masonii*. *J. Antibiotics* 21: 523~524, 1968
- 2) CARTER, S. B.: Effects of cytochalasins on mammalian cells. *Nature* 213: 261~264, 1967
- 3) ALDRIDGE, D. C.; J. J. ARMSTRONG, R. N. SPEAKE & W. B. TURNER: The cytochalasins, a new class of biologically active mould metabolites. *Chem. Comm.* 1: 26~27, 1967
- 4) ALDRIDGE, D. C. & W. B. TURNER: The structures of cytochalasins C and D. *J. Chem. Soc. (C)*, in press.

Added in proof: The structure of zygosporin A, derived by X-ray analysis, has been published* and is identical with the structure derived chemically for cytochalasin D⁴⁾.

* TSUKUDA, Y.; M. MATSUMOTO, H. MINATO & H. KOYAMA: Structure of zygosporin A: X-ray analysis of isozygosporin A *p*-bromobenzoate. *Chem. Comm.* 41, 1969

Fig. 1.

