

Inhibition of the Non-Mevalonate 1-Deoxy-D-xylulose-5-phosphate Pathway of Plant Isoprenoid Biosynthesis by Fosmidomycin

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Z. Naturforsch. **53c**, 980–986 (1998); received October 2, 1998

Carotenoid Biosynthesis, Fosmidomycin, Isopentenyl Diphosphate, Isoprene,
Non-Mevalonate IPP Pathway, Terpenoids

Various bacterial and plastidic plant terpenoids are synthesized via the non-mevalonate 1-deoxy-D-xylulose-5-phosphate (DOXP) pathway. The antibiotic and herbicidal compound fosmidomycin is known to inhibit growth of several bacteria and plants, but so far its mode of action was unknown. Here we present data which demonstrate that the DOXP pathway of isoprenoid biosynthesis is efficiently blocked by fosmidomycin. The results point to the DOXP reductoisomerase as the probable target enzyme of fosmidomycin.

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