

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

Johannes Zeidler^a, Jörg Schwender^a, Christian Müller^a, Jochen Wiesner^b,
Claus Weidemeyer^b, Ewald Beck^b, Hassan Jomaa^b and Hartmut K. Lichtenthaler^a

^a Botanical Institute II, University of Karlsruhe, D-76128 Karlsruhe, Germany

^b Molecular Biology, Institute of Biochemistry, Academic Hospital Centre,
Justus-Liebig University, D-35392 Giessen, Germany

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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.

Reprint requests to Prof. Dr. Dr. h. c. H. K. Lichtenthaler. Fax: +49 721 608 4874.
E-mail: hartmut.lichtenthaler@bio-geo.uni-karlsruhe.de