

Title (en)

CLONING OF THE STREPTOMYCES AVERMITILIS GENES FOR GLYCOSYLATION OF AVERMECTIN AGLYCONES

Title (de)

KLONIERUNG DES STREPTOMYCES AVERMITILIS GENES ZUR GLYCOSYLIERUNG VON AVERMECTIN AGLYCONEN

Title (fr)

CLONAGE DES GENES STREPTOMYCES AVERMITILIS POUR LA GLYCOSYLATION D'AGLYCONES D'AVERMECTINE

Publication

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Application

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Abstract (en)

[origin: WO0109155A1] A cluster of genes involved in the synthesis and/or addition of oleandrose to avermectin aglycones has been cloned. A 11-kb <i>Pst</i> clone complemented 28 avermectin glycosylation mutants in seven complementation classes. Sequencing of an 10-kb region identified 9 ORFs and an additional partial ORF. Eight of the ORFs were correlated to the seven glycosylation complementation classes. Sequence comparison to Genbank databases identified 6 genes: dTDP-glucose synthase; dTDP-glucose 4,6 dehydrase; dTDP-4-keto-hexose reductase; dTDP-hexose 3,5 epimerase; dTDP-hexose 3' O-methylase; and an avermectin aglycone-dTDP-oleandrose glycosyltransferase. The ninth ORF was essential for biosynthesis of the avermectin aglycones. The partial ORF encoded part of an avermectin polyketide synthase module 7.

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Citation (search report)

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