Title (en)

MONOTERPENE SYNTHASES FROM GRAND FIR ($i(ABIES GRANDIS))

Title (de)

MONOTERPENSYNTHASEN DER TANNE (ABIES GRANDIS)

Title (fr)

MONOTERPENES SYNTHASES TIREES DE SAPIN GRANDISSIME ($i(Abies grandis))

Publication

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Application

EP 98935641 A 19980710

Priority

- US 9814528 W 19980710
- US 5224997 P 19970711

Abstract (en)

[origin: WO9902030A1] cDNAs encoding myrcene synthase, (-)-limonene synthase and (-)-pinene synthase from Grand fir (Abies grandis) haven been isolated and sequenced, and the corresponding amino acid sequences have been determined. Accordingly, isolated DNA sequences (SEQ ID NO:1; SEQ ID NO:3 and SEQ ID NO:5) are provided which code for the expression of myrcene synthase (SEQ ID NO:2), (-)-pinene synthase (SEQ ID NO:4) and (-)-limonene synthase (SEQ ID NO:6) , respectively, from Grand fir (Abies grandis). In other aspects, replicable recombinant cloning vehicles are provided which code for myrcene synthase, (-)-limonene synthase and (-)-pinene synthase, or for a base sequence sufficiently complementary to at least a portion of myrcene synthase, (-)-limonene synthase or (-)-pinene synthase DNA or RNA to enable hybridization therewith. In yet other aspects, modified host cells are provided that have been transformed, transfected, infected and/or injected with a recombinant cloning vehicle and/or DNA sequence encoding myrcene synthase, (-)-limonene synthase or (-)-pinene synthase. Thus, systems and methods are provided for the recombinant expression of the aforementioned recombinant monoterpene synthases that may be used to facilitate their production, isolation and purification in significant amounts. Recombinant myrcene synthase, (-)-limonene synthase or (-)-pinene synthase may be used to obtain expression or enhanced expression of myrcene synthase, (-)-limonene synthase or (-)-pinene synthase in plants in order to enhance the production of monoterpenoids, or may be otherwise employed for the regulation or expression of myrcene synthase, (-)-limonene synthase and (-)-pinene synthase, or the production of their products.

IPC 1-7

A01H 5/00; A01H 5/10; A23D 7/00; A23K 1/14; C07H 21/04; C07K 4/10; C12N 15/04; C12N 15/63; C12N 15/82

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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- [X] DATABASE EMBL 2 August 1996 (1996-08-02), STOFFER-VOGEL,B., WILDUNG,M.R., VOGEL,G. AND CROTEAU,R.B.: "Abies grandis abietadiene synthase (ac22) mRNA, complete cds.", XP002297128, retrieved from EBI Database accession no. U50768
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- See references of WO 9902030A1

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