

Title (en)  
SYSTEM FOR PRODUCING TERPENOIDS IN PLANTS

Title (de)  
SYSTEM ZUR HERSTELLUNG VON TERPENOIDEN IN PFLANZEN

Title (fr)  
SYSTÈME DE PRODUCTION DE TERPÉNOIDES DANS LES PLANTES

Publication  
**EP 1844154 A1 20071017 (FR)**

Application  
**EP 06709184 A 20060127**

Priority  
• FR 2006000188 W 20060127  
• FR 0500855 A 20050127

Abstract (en)  
[origin: FR2881143A1] A method for the production of terpenes in transgenic plants having glandulous trichomes (e.g. *Nicotiana sylvestris*), comprising introducing an expression cassette comprising a polynucleotide sequence encoding taxadiene synthase/casbene synthase into a cell of the plant, reconstituting plant from the cell and harvesting the terpenes, is new. A method for the production of terpenes in transgenic plants having glandulous trichomes, comprising introducing an expression cassette comprising a polynucleotide sequence encoding taxadiene synthase/casbene synthase into a cell of the plant, reconstituting plant from the cell and harvesting the terpenes. The transgenic plant is *Nicotiana sylvestris* and the sequence encoding taxadiene synthase/casbene synthase, allows the plant to synthesize the terpenes under the control of a specific promoter of the trichomes, where the cassette comprises an inducer sequence. The terpene is harvested by the recovery of the terpene in the trichome exudate. The production of terpene is carried by blocking the expression of endogenous terpene synthases. Independent claims are also included for: (1) a transgenic plant or seed having glandulous trichomes; and (2) a method of harvesting heterologous terpene.

IPC 8 full level  
**C12N 15/82** (2006.01); **C12N 9/10** (2006.01); **C12N 15/113** (2010.01)

CPC (source: EP US)  
**C12N 9/88** (2013.01 - EP US); **C12N 15/1137** (2013.01 - EP); **C12N 15/8205** (2013.01 - EP); **C12N 15/8223** (2013.01 - EP US); **C12N 15/8243** (2013.01 - EP US); **C12P 5/007** (2013.01 - EP US); **C12P 15/00** (2013.01 - EP US); **C12N 15/1137** (2013.01 - US); **C12N 15/8205** (2013.01 - US)

Citation (search report)  
See references of WO 2006079727A1

Citation (examination)  
• US 6730826 B2 20040504 - WAGNER GEORGE J [US], et al  
• US 2004234968 A1 20041125 - CROTEAU RODNEY B [US], et al  
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• LANGE B M ET AL: "Genetic engineering of essential oil production in mint", CURRENT OPINION IN PLANT BIOLOGY, QUADRANT SUBSCRIPTION SERVICES, GB, vol. 2, no. 2, 1 April 1999 (1999-04-01), pages 139 - 144, XP009101099, ISSN: 1369-5266, DOI: 10.1016/S1369-5266(99)80028-4  
• WANG E ET AL: "Isolation and characterization of the CYP71D16 trichome-specific promoter from *Nicotiana tabacum* L", JOURNAL OF EXPERIMENTAL BOTANY, OXFORD UNIVERSITY PRESS, GB, vol. 53, no. 376, 1 September 2002 (2002-09-01), pages 1891 - 1897, XP002318244, ISSN: 0022-0957, DOI: 10.1093/JXB/ERF054

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DOCDB simple family (publication)  
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**FR 0500855 A 20050127**; CA 2595608 A 20060127; EP 06709184 A 20060127; EP 10180608 A 20060127; FR 2006000188 W 20060127; JP 2007552681 A 20060127; US 81494306 A 20060127