

Title (en)  
METHOD FOR MODIFYING PLANT MORPHOLOGY, BIOCHEMISTRY AND PHYSIOLOGY COMPRISING EXPRESSION OF PLANT CYTOKININ OXIDASE

Title (de)  
METHODE ZUR VERÄNDERUNG DER MORPHOLOGIE, BIOCHEMIE UND PHYSIOLOGIE VON PFLANZEN, BEINHALTEND DIE EXPRESSION EINER PFLANZLICHEN CYTOKININ OXIDASE

Title (fr)  
PROCEDE DE MODIFICATION DE LA MORPHOLOGIE, BIOCHIMIE ET PHYSIOLOGIE DES PLANTES COMPRENANT L'EXPRESSION D'UNE CYTOKININE OXYDASE DES PLANTES

Publication  
**EP 1458874 A2 20040922 (EN)**

Application  
**EP 02795139 A 20021210**

Priority  
• EP 0213990 W 20021210  
• US 1410101 A 20011210

Abstract (en)  
[origin: WO03050287A2] The present invention relates to methods for stimulating root growth and/or enhancing the formation of lateral or adventitious roots and/or altering root geotropism comprising expression of a plant cytokinin oxidase or comprising expression of another protein that reduces the level of active cytokinins in plants or plant parts. Also provided by the present invention are methods for increasing seed size and/or weight, embryo size and/or weight, and cotyledon size and/or weight. The methods comprise expression of a plant cytokinin oxidase or expression of another protein that reduces the level of active cytokinins in plants or plant parts. The invention also relates to novel plant cytokinin oxidase proteins, nucleic acid sequences encoding cytokinin oxidase proteins as well as to vectors, host cells, transgenic cells and plants comprising said sequences. The invention also relates to the use of said sequences for improving root-related characteristics including increasing yield and/or enhancing early vigor and/or modifying root/shoot ratio and/or improving resistance to lodging and/or increasing drought tolerance and/or promoting in vitro propagation of explants and/or modifying cell fate and/or plant development and/or plant morphology and/or plant biochemistry and/or plant physiology. The invention also relates to the use of said sequences in the above-mentioned methods. The invention also relates to methods for identifying and obtaining proteins and compounds interacting with cytokinin oxidase proteins. The invention also relates to the use of said compounds as a plant growth regulator or herbicide.

IPC 1-7  
**C12N 15/82; C12N 15/53; C12N 15/29; A01H 5/06; A01H 5/04; A01H 5/10**

IPC 8 full level  
**A01H 1/00** (2006.01); **A01H 5/00** (2006.01); **C07K 16/40** (2006.01); **C12N 1/15** (2006.01); **C12N 1/19** (2006.01); **C12N 1/21** (2006.01); **C12N 5/10** (2006.01); **C12N 9/02** (2006.01); **C12N 9/06** (2006.01); **C12N 15/09** (2006.01); **C12N 15/29** (2006.01); **C12N 15/53** (2006.01); **C12N 15/82** (2006.01); **C12Q 1/26** (2006.01); **G01N 33/15** (2006.01); **G01N 33/50** (2006.01); **G01N 33/566** (2006.01)

CPC (source: EP)  
**C12N 9/0032** (2013.01); **C12N 15/8295** (2013.01)

Citation (search report)  
See references of WO 03050287A2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)  
**WO 03050287 A2 20030619; WO 03050287 A3 20031120**; AU 2002361037 A1 20030623; AU 2002361037 B2 20080508; BR 0214830 A 20041109; BR PI0214830 B1 20151027; CA 2468753 A1 20030619; CA 2468753 C 20140708; CA 2848193 A1 20030619; CN 1650016 A 20050803; CN 1650016 B 20100428; EP 1458874 A2 20040922; EP 1865053 A2 20071212; EP 1865053 A3 20080109; EP 1865053 B1 20120808; ES 2392190 T3 20121205; JP 2005511090 A 20050428; JP 2010213715 A 20100930; ZA 200404489 B 20060830

DOCDB simple family (application)  
**EP 0213990 W 20021210**; AU 2002361037 A 20021210; BR 0214830 A 20021210; CA 2468753 A 20021210; CA 2848193 A 20021210; CN 02826693 A 20021210; EP 02795139 A 20021210; EP 07113288 A 20021210; ES 07113288 T 20021210; JP 2003551308 A 20021210; JP 2010110571 A 20100512; ZA 200404489 A 20040607