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13 December 2001
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



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(54) Title: ROOT-PREFERRED PROMOTER ELEMENTS AND METHODS OF USE

(57) Abstract: The present invention provides compositions and methods for regulating expression of nucleotide sequences in a plant. Compositions are novel nucleotide sequences for root-preferred promoter elements and plant promoters comprising the elements. Methods for expressing a nucleotide sequence in a plant using the promoter sequences disclosed herein are provided. The methods comprise transforming a plant cell with a nucleotide sequence operably linked to the promoters of the present invention and regenerating a stably transformed plant from the transformed plant cell.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/02011

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/82 C12N5/14 C12N15/63 C12N15/10 A01H5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 44448 A (PIONEER HI BRED INT) 27 November 1997 (1997-11-27) page 3, line 20 - line 31; examples 1-3 page 9, line 16 - line 33 ---	1-4, 13, 19, 20, 22, 23
X	WO 99 43838 A (PIONEER HI BRED INT) 2 September 1999 (1999-09-02) examples 3-5 ---	1-4, 13, 19, 20
P, X	WO 00 31249 A (PIONEER HI BRED INT) 2 June 2000 (2000-06-02) page 5, line 4 - page 7, line 23 --- -/--	1-4, 13, 19, 20

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

14 August 2001

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27/08/2001

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International Application No

PCT/US 01/02011

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL 'Online! Accession no. AL132966, 12 November 1999 (1999-11-12) BLOECKER H. ET AL.: "Arabidopsis thaliana DNA chromosome 3, BAC clone F4P12" XP002174831</p> <p style="text-align: center;">abstract</p> <p style="text-align: center;">---</p>	5,10-18
X	<p>DATABASE EMBL 'Online! Accession no. AC018928, SPIEGEL L.A. ET AL.: "Genomic Sequence For Arabidopsis thaliana Clone F23C08, Chromosome V, Complete Sequence" XP002174832</p> <p style="text-align: center;">abstract</p> <p style="text-align: center;">---</p>	5,10-18
X	<p>DATABASE EMBL 'Online! Accession no. AB009050, 1 December 1997 (1997-12-01) SATO S. ET AL.: "Arabidopsis thaliana genomic DNA, chromosome 5, P1 clone:MDF20" XP002174833</p> <p style="text-align: center;">abstract</p> <p style="text-align: center;">---</p>	5,10-18
A	<p>PWEE K.-H. ET AL.: "HMG PROTEIN BINDING TO AN A/T-RICH POSITIVE REGULATORY REGION OF THE PEA PLASTOCYANIN GENE PROMOTER" PLANT MOLECULAR BIOLOGY, vol. 26, no. 6, 1994, pages 1907-1920, XP001015435</p> <p style="text-align: center;">the whole document</p> <p style="text-align: center;">-----</p>	1-23

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-4 searched incompletely

Present claims 1-4 relate to an extremely large number of possible products. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the products claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the methods of claims 21 and 22 and the products resulting from said methods, especially those products defined in claim 5(a).

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 01/02011

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9744448	A	27-11-1997	AU 713013 B	18-11-1999
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