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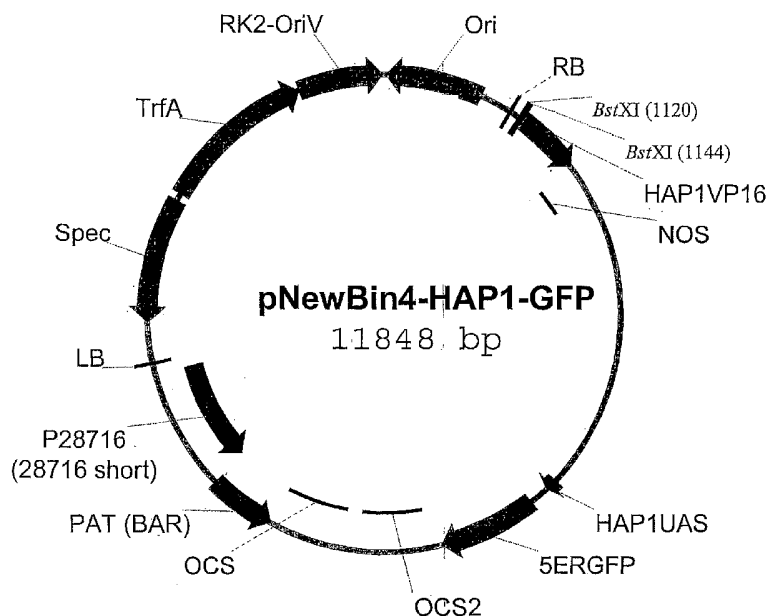
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60/558,869 1 April 2004 (01.04.2004) US
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18 January 2007

[Continued on next page]

(54) Title: PROMOTER, PROMOTER CONTROL ELEMENTS, AND COMBINATIONS, AND USES THEREOF



(57) Abstract: The present invention is directed to promoter sequences and promoter control elements, polynucleotide constructs comprising the promoters and control elements, and methods of identifying the promoters, control elements, or fragments thereof. The invention further relates to the use of the present promoters or promoter control elements to modulate transcript levels.

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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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/011105

A. CLASSIFICATION OF SUBJECT MATTER
INV. C12N15/82

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)
C12N

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, Sequence Search, EMBASE, BIOSIS, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>DATABASE EMBL [Online] 16 November 1998 (1998-11-16), "Arabidopsis thaliana genomic DNA, chromosome 5, TAC clone:K24M7." XP002372668 retrieved from EBI accession no. EM_PRO:AB019226 Database accession no. AB019226 100% identity with a genomic clone from Arabidopsis thaliana of 73999 length with SEQ ID No 1 the whole document</p> <p style="text-align: center;">----- -/--</p>	1-21

Further documents are listed in the continuation of Box C.

See patent family 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

22 March 2006

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/011105

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, Y	<p>DATABASE EMBL [Online] 24 November 2004 (2004-11-24), "WiscDsLox262D09 Arabidopsis thaliana T-DNA insertion flanking sequences Arabidopsis thaliana genomic, genomic survey sequence." XP002372669 retrieved from EBI accession no. EM_PRO:CW793615 Database accession no. CW793615 96.76% identity in 928nt overlap with SEQ ID No 1 the whole document</p> <p style="text-align: center;">-----</p>	1-21
Y	<p>DATABASE EMBL [Online] 21 March 2002 (2002-03-21), "Arabidopsis thaliana cDNA clone:RAFL09-89-K19, 5'-end." XP002372670 retrieved from EBI accession no. EM_PRO:AV831484 Database accession no. AV831484 EST sequence; 98,851% identity in 87 nt overlap with SEQ ID No. 2 the whole document</p> <p style="text-align: center;">-----</p>	1-21
Y	<p>EP 1 033 405 A (CERES INCORPORATED) 6 September 2000 (2000-09-06) page 5 - page 10; tables 1,2; sequence 8532</p>	1-21
Y	<p>& DATABASE Geneseq [Online] 17 October 2000 (2000-10-17), "Arabidopsis thaliana DNA fragment SEQ ID NO: 8532." retrieved from EBI accession no. GSN:AAC34965 Database accession no. AAC34965 98,851% identity in 87 nt overlap with SEQ ID No 2 the whole document</p> <p style="text-align: center;">-----</p>	1-21
Y	<p>DATABASE EMBL [Online] 23 April 2002 (2002-04-23), "Arabidopsis thaliana putative photoassimilate-responsive protein PAR (At5g52390) mRNA, complete cds." XP002372671 retrieved from EBI accession no. EM_PRO:AY091116 Database accession no. AY091116 100% identity in 949 nt overlap with SEQ ID No 3 the whole document</p> <p style="text-align: center;">-----</p>	1-21

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/011105

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE Geneseq [Online] 18 October 2000 (2000-10-18), "Arabidopsis thaliana protein fragment SEQ ID NO: 62052." XP002372672 retrieved from EBI accession no. GSP:AAG49079 Database accession no. AAG49079 100% identity in 195 aa overlap with SEQ ID No. 4 the whole document	1-21
Y	SHAHMURADOV I A ET AL: "PlantProm: a database of plant promoter sequences" NUCLEIC ACIDS RESEARCH, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 31, no. 1, 2003, pages 114-117, XP002993034 ISSN: 0305-1048 the whole document	1-21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/011105

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-21 partially

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 1-4

2. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 5-7

3. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 8-10

4. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 11-13

5. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 14-16

6. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 17-19

7. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 20-22

8. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 27-29

9. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 23-26

10. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 30-33

11. claims: 1-21 partially

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Promotersequences according to SEQ. ID Nos 34-37

12. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 38-41

13. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 42-44

14. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 45-47

15. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 48-50

16. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 51-53

17. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 54-56

18. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 57-60

19. claims: 1-21 partially

Promotersequences according to SEQ. ID Nos 61-63

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2005/011105

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1033405	A	NONE	