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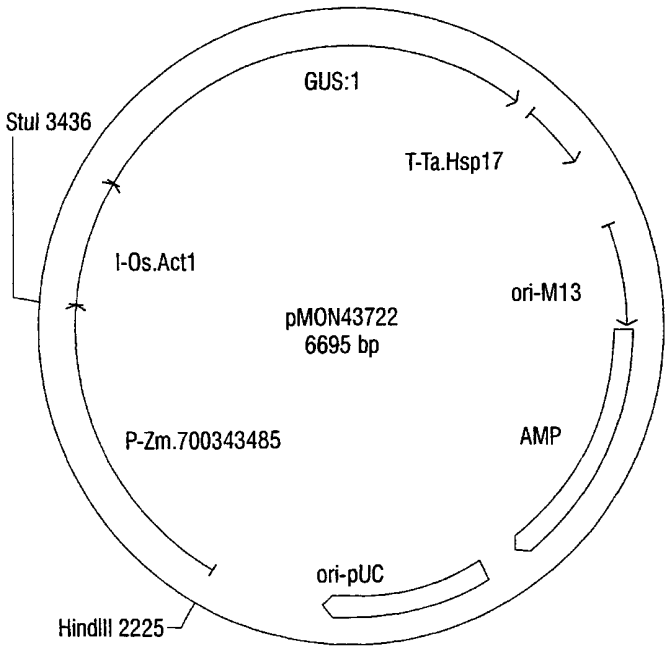
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[Continued on next page]

(54) Title: PLANT REGULATORY SEQUENCES FOR CONTROL OF GENE EXPRESSION



(57) Abstract: The present invention relates to nucleic acid sequences for regulating gene expression in plants. In particular, the invention relates to 5' regulatory sequences which are useful for regulating expression of heterologous DNAs in plants and methods for identifying multiple 5' regulatory sequences which confer a particular expression profile when operably linked to DNA sequences. The invention also relates to expression vectors containing the 5' regulatory sequences and to transgenic plants containing the expression vectors.

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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
PC /US 00/25078

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N15/82 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, EMBL, 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 99 43797 A (PIONEER HI BRED INT ;RICE DOUGLAS A (US)) 2 September 1999 (1999-09-02) page 22 -page 23; example 3 SEQ ID NOs: 1, 3 page 17, line 4 - line 21 ---	7,8
X	WO 96 40925 A (PIONEER HI BRED INT) 19 December 1996 (1996-12-19) page 38 -page 40; example 3 page 14, line 10 - line 13 ---	7,8
P,X	EP 1 033 405 A (CERES INC) 6 September 2000 (2000-09-06) SEQ ID NO.54872, nts 1-72 page 57100 -page 57101 ---	1,2
	-/--	

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
6 April 2001	16 July 2001 (16.07.01)

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Blanco Urgoiti, B

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Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International Application No
P[illegible], US 00/25078

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BOKHARI-RIZA A., TURCICH M.P., TAKACS I., HAMILTON D.A., MASCARENHAS J.P.: "Characterization of histone H2A and H2B cDNA clones isolated from maize ovule cDNA library" MAYDICA, vol. 39, 1994, pages 115-118, XP000992679 the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

national application No.
PCT/US 00/25078

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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. [X] 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.:

1-10 (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: 1-10 (partially)

   The isolated DNA sequences of SEQ ID NOs: 53 or 54, or a fragment thereof having at least 20 nucleotides. Said DNA molecule linked to a second polynucleotide molecule. Both linked DNA molecules wherein the first confers expression of the second in a transgenic plant tissue. Said first DNA molecule wherein it is a hybrid promoter. Said DNA molecule further comprising a minimal promoter sequence. A DNA construct comprising the polynucleotide of SEQ ID NOs:53 or 54, or a fragment thereof having at least 20 nucleotides, operably linked to a second polynucleotide and a 3' non-translated sequence. A transgenic plant comprising said construct. Said transgenic plant being a monocot. Said monocot transgenic plant, wherein said construct confers herbicide tolerance to said plant. A method of making a transgenic plant comprising introducing into a plant cell the polynucleotide of SEQ ID NOs:53 or 54, or a fragment thereof having at least 20 nucleotides, operably linked to a second polynucleotide and a 3' non-translated sequence; selecting said plant cell and regenerating a plant from said plant cell.

2. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NOs: 55 and 63;

3. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NO:56;

4. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NOs:57 and 59;

5. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NO:58;

6. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NOs:60 and 64;

7. Claims: 1-10 (partially)

   Idem as invention 1 but limited to SEQ ID NO:61;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

8. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:62;

9. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:65;

10. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:66;

11. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:67;

12. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:68;

13. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:69;

14. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:70;

15. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:71;

16. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:72;

17. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:73;

18. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:74;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

19. Claims: 1-10 (partially)

Idem as invention 1 but limited to SEQ ID NO:75;

20. Claim : 11

A method of making a transgenic plant comprising introducing into a plant cell a DNA construct comprising a CaMV-35S promoter, operably linked to a rice actin intron, a second polynucleotide, and a 3' non-translated sequence; selecting said plant cell and regenerating a plant from said plant cell.

INTERNATIONAL SEARCH REPORT

'nformation on patent family members

International Application No
PC./US 00/25078

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9943797 A	02-09-1999	AU 2880399 A	15-09-1999
		EP 1056864 A	06-12-2000
		US 6177611 B	23-01-2001
WO 9640925 A	19-12-1996	US 5837850 A	17-11-1998
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EP 1033405 A	06-09-2000	NONE	