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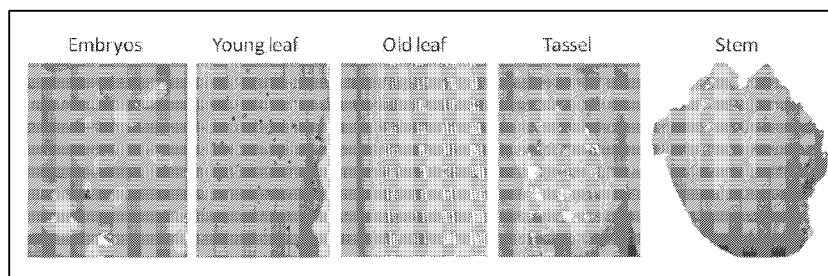


FIG. 4

(57) Abstract: Nucleic acids, vectors, and expression vectors comprising novel plant gene regulatory elements from sorghum. Novel transgenic plants expressing heterologous genes under the control of novel gene regulatory elements.



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INTERNATIONAL SEARCH REPORT

International application No  
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. C12N15/82 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
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, BIOSIS, Sequence Search, EMBASE, WPI Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL [Online] 9 September 2006 (2006-09-09), "ix81d12.g1 Sub-library of four pooled sorghum BAC clones: 111e10 (sbb10618), 77G16, 82G24, and 75M14 Sorghum bicolor genomic, genomic survey sequence." XP002583681 retrieved from EBI accession no. EMBL:ED506692 Database accession no. ED506692 100% identity to SEQ ID NO:10 in 796 bp overlap; * abstract; compound	1,3
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
<ul style="list-style-type: none"> <li>*A* document defining the general state of the art which is not considered to be of particular relevance</li> <li>*E* earlier document but published on or after the international filing date</li> <li>*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)</li> <li>*O* document referring to an oral disclosure, use, exhibition or other means</li> <li>*P* document published prior to the international filing date but later than the priority date claimed</li> <li>*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</li> <li>*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</li> <li>*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.</li> <li>* &amp; * document member of the same patent family</li> </ul>		
Date of the actual completion of the international search  <p style="text-align: center;">25 May 2010</p>		Date of mailing of the international search report  <p style="text-align: center;">05/07/2010</p>
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer  <p style="text-align: center;">Kania, Thomas</p>

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/046328

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>LEITE A ET AL: "Expression of correctly processed human growth hormone in seeds of transgenic tobacco plants"  MOLECULAR BREEDING: NEW STRATEGIES IN PLANT IMPROVEMENT, KLUWER ACADEMIC PUBLISHERS, NL,  vol. 6, 1 January 2000 (2000-01-01), pages 47-53, XP002965096  ISSN: 1380-3743  the whole document</p>	<p>1-3,5,6,  8-29,  31-55</p>
Y	<p>MUTISYA J ET AL: "Transcriptional regulation of the sbeIIb genes in sorghum (Sorghum bicolor) and barley (Hordeum vulgare): Importance of the barley sbeIIb second intron"  JOURNAL OF PLANT PHYSIOLOGY, FISCHER, STUTTGART, DE,  vol. 163, no. 7, 3 May 2006 (2006-05-03), pages 770-780, XP025161137  ISSN: 0176-1617  [retrieved on 2006-05-03]  the whole document</p>	<p>1-3,5,6,  8-29,  31-55</p>
Y	<p>US 2007/226816 A1 (HINCHEY BRENDAN [US])  27 September 2007 (2007-09-27)  the whole document</p>	<p>1-3,5,6,  8-29,  31-55</p>
Y	<p>WO 2007/076115 A2 (ARCADIA BIOSCIENCES INC [US]; KRIDL JEAN [US]; DEPAUW MARY [CA]; SHRAW) 5 July 2007 (2007-07-05)  example 5</p>	<p>1-3,5,6,  8-29,  31-55</p>
A	<p>US 2007/130645 A1 (WU WEI [US] ET AL WU WEI [US] ET AL) 7 June 2007 (2007-06-07)  SEQ ID NO:6606 = 80% identity to SEQ ID NO:1claims  -&amp; DATABASE Geneseq [Online]  12 June 2008 (2008-06-12), "Maize promoter sequence SEQ ID 6606."  XP002559233  retrieved from EBI accession no.  GSN:AQE58876  Database accession no. AQE58876  compound</p>	<p>1-3,5,6,  8-29,  31-55</p>
A	<p>WO 91/09948 A1 (CORNELL RES FOUNDATION INC [US]) 11 July 1991 (1991-07-11)</p>	<p>1-3,5,6,  8-29,  31-55</p>
A	<p>WO 01/34817 A2 (PIONEER HI BRED INT [US])  17 May 2001 (2001-05-17)</p>	<p>1-3,5,6,  8-29,  31-55</p>
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## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/046328

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GARBARINO J E AND BELKNAP W R: "Isolation of a Ubiquitin-ribosomal protein gene (ubi 3) from potato and expression of its promoter in transgenic plants" PLANT MOLECULAR BIOLOGY, SPRINGER, DORDRECHT, NL LNKD- DOI:10.1007/BF00040579, vol. 24, no. 1, 1 January 1994 (1994-01-01), pages 119-127, XP002116061 ISSN: 0167-4412	1-3,5,6, 8-29, 31-55
A	CHRISTENSEN A H ET AL: "UBIQUITIN PROMOTER-BASED VECTORS FOR HIGH-LEVEL EXPRESSION OF SELECTABLE AND/OR SCREENABLE MARKER GENES IN MONOCOTYLEDONOUS PLANTS" TRANSGENIC RESEARCH, LONDON, GB LNKD- DOI:10.1007/BF01969712, vol. 5, no. 3, 1 January 1996 (1996-01-01), pages 213-218, XP000876759 ISSN: 0962-8819	1-3,5,6, 8-29, 31-55
A	US 6 528 701 B1 (WANG JIANLIN [US] ET AL) 4 March 2003 (2003-03-04)	1-3,5,6, 8-29, 31-55
A	WO 03/102198 A1 (METANOMICS GMBH & CO KGAA [DE]; PLESCH GUNNAR [DE]; EBNETH MARCUS [DE]) 11 December 2003 (2003-12-11)	1-3,5,6, 8-29, 31-55

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2009/046328

## Box No. 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 No. 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 fees, this Authority did not invite payment of additional fees.
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.:  
  
1-3, 5, 6, 8-29, 31-55(all partially)
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.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- 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: 1-3, 5, 6, 8-29, 31-55(all partially)

An isolated nucleic acid whose nucleotide sequence comprises a sequence having at least 85 % identity to SEQ ID NO:1, vectors and transgenic plants comprising said nucleic acid  
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2-4. claims: 1, 2, 5, 8-28, 31-55(all partially)

idem for SEQ ID NO:2-4  
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5. claims: 1-3, 5, 6, 8-29, 31-55(all partially)

idem for SEQ ID NO:5  
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6. claims: 1-3, 5, 6, 8-29, 31-55(all partially)

idem for SEQ ID NO:6  
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7-9. claims: 1, 2, 5, 8-28, 31-55(all partially)

idem for SEQ ID NO:7-9  
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10. claims: 1-3, 5, 6, 8-29, 31-55(all partially)

idem for SEQ ID NO:10  
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11. claims: 1-55(partially)

idem for SEQ ID NO:11  
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12-42. claims: 1, 2, 5, 8-28, 31-55(all partially)

idem for SEQ ID NO:12-42  
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43. claims: 1-3, 5, 6, 8-29, 31-55(all partially)

idem for SEQ ID NO:43  
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44. claims: 1, 2, 5, 8-28, 31-55(all partially)

idem for SEQ ID NO:44  
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

45. claims: 1-55(partially)

idem for SEQ ID NO:45  
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46-48. claims: 1, 2, 5, 8-28, 31-55(all partially)

idem for SEQ ID NO:46-48  
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/046328

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007226816 A1	27-09-2007	US 2008235831 A1	25-09-2008
WO 2007076115 A2	05-07-2007	AR 059119 A1	12-03-2008
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