Title: MATERNAL EFFECT GAMETOPHYTE REGULATORY POLYNUCLEOTIDE

Abstract: This invention relates to the isolation and characterization of a novel gene from *Arabidopsis* with maternal gametophyte control of pollen tube development and sperm release. The novel gene and gene product may be used to manipulate the function of gametophytes, fertilization and pollination for the generation of apomixis in *Arabidopsis* and other plant types. Novel sequences, polypeptides and methods of use for the same are disclosed.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :C19N 15/29, 15/89; A01H 1/02
US CL :558/338, 24/1, 24/5; 800/271, 278, 285, 286, 287

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)

U.S.: 536/93.6, 24.1, 24.5; 800/271, 278, 285, 286, 287

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 practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 6,239,327 B1 (GROSSNIKLAUS et al) 29 May 2001, col. 1, lines 16-54; col. 2, lines 22-36 and 66-67; col. 3, lines 1-7 and 16-43; col. 7, lines 36-43; col. 11, lines 22-24; col. 16, line 63 through col. 17, line 11; col. 20, line 57 through col. 21, line 5; col. 24, lines 45-65; col. 25-29.</td>
<td>14-16 and 18-21</td>
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<td>Y</td>
<td>WO 01/21785 A2 (CAMBIA) 29 March 2001, page 1, lines 9-24; page 2, lines 5-27; page 8, lines 11-20; page 13, lines 9-17; page 14, line 28 through page 15, line 24; Figure 6.</td>
<td>14-16 and 18-21</td>
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<td>Y</td>
<td>WO 00/24914 A2 (NOVARTIS-ERFINDUNGEN) 04 May 2000, page 1 through page 2, third paragraph; page 3, top paragraph; pages 4-6; page 9, bottom paragraph.</td>
<td>14-16 and 18-21</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

Date of the actual completion of the international search

09 MAY 2003

Date of mailing of the international search report

27 MAY 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks

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Form PCT/ISA/210 (second sheet) (July 1988)
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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<tbody>
<tr>
<td>Y</td>
<td>WO 98/08961 A2 (OLSEN et al) 05 March 1998, page 1, lines 7-9 and 26-31; page 4, lines 9-10 and 25-31; page 5, lines 7-15 and 21-31; page 7, line 22 through page 8, line 8.</td>
<td>14-16</td>
</tr>
</tbody>
</table>
INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(9)(e) 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. 1-13 and 17
   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:

   The claims recite nucleic acid and amino acid sequences. However, the computer readable format of the Sequence Listing was damaged and unreadable.

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:

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.:  

Remark on Protest  ☐ The additional search fees were accompanied by the applicant’s protest.
☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet(1)) (July 1998)