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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: MITES-LIKE ELEMENT AND TRANSCRIPTIONAL ACTIVATION ELEMENT

(57) Abstract: The invention provides novel, carrot-derived MITE-like elements (transposable elements). It further provides tran-
scriptional activation elements comprising at least one transposable element, in particular one of the above MITE-like elements.
Specifically, it provides transcriptional activation elements having a DNA comprising the nucleotide sequence shown under SEQ ID
NO:1 or a functional equivalent thereto and/or a DNA comprising the nucleotide sequence shown under SEQ ID NO:2 or a functional
equivalent thereto. The transcriptional activation elements of the invention can increase or activate the reduced expression of a for-
eign gene introduced by the transgenic technology. Therefore, the transcriptional activation elements contribute to stable expression
of a foreign gene introduced in a plant genome and are useful in stably producing genetically modified plants.

WO 01/05986 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 00/04837

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/82 C12N15/90 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, WPI Data, BIOSIS, MEDLINE, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BUREAU T E ET AL: "Stowaway: a new family of inverted repeat elements associated with the genes of both monocotyledonous and dicotyledonous plants" PLANT CELL, AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, ROCKVILLE, MD, US, vol. 6, no. 6, June 1994 (1994-06), pages 907-916, XP002156106 ISSN: 1040-4651 cited in the application the whole document --- -/--	1-19

☒ 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.
- *S* document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Inte. .onal Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BÉNÉDICTE CHARRIER ET AL.: "Bigfoot: a new family of MITE elements characterized from the Medicago genus" PLANT JOURNAL., vol. 18, no. 4, May 1999 (1999-05), pages 431-441, XP002157570 BLACKWELL SCIENTIFIC PUBLICATIONS, OXFORD., GB ISSN: 0960-7412 the whole document	1-5,9-19
A	ELENA CASACUBERTA ET AL.: "Presence of miniature inverted-repeat transposable elements (MITEs) in the genome of Arabidopsis thaliana: characterisation of the Emigrant family of elements" PLANT JOURNAL., vol. 16, no. 1, October 1998 (1998-10), pages 79-85, XP002156103 BLACKWELL SCIENTIFIC PUBLICATIONS, OXFORD., GB ISSN: 0960-7412 the whole document	1-5,9-19
X	WO 98 22593 A (PIONEER HI-BRED INTERNATIONAL, INC.) 28 May 1998 (1998-05-28) page 6, line 27 -page 7, line 17 page 7, line 31 -page 8, line 7; examples 1,2	8,13-19
X	SHIN TAKEDA ET AL.: "Transcriptional activation of the tobacco retrotransposon Tto1 by wounding and methyl jasmonate" PLANT MOLECULAR BIOLOGY, vol. 36, 1998, pages 365-376, XP002165578 abstract page 370, left-hand column, paragraph 1 -right-hand column, paragraph 2 page 373, right-hand column, paragraph 2 -page 374, right-hand column, paragraph 2	8,13-19

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP 00/04837

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. ☐ 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-5, 10-12, and partially 8, 9 and 13-19

MITE-like element capable of causing duplication of the target sequence (A)nG(A)n; transcriptional activation element containing it; transgene expression cassette and plasmid containing the same and transgenic plant containing such an expression cassette

2. Claims: 6 and 7, and partially 8, 9 and 13-19

MITE-like element capable of causing duplication of the target sequence TA, comprising SEQ ID NO:6 and showing SEQ ID NO:4 in the 5' terminal region and SEQ ID NO:5 in the 3' terminal region; transcriptional activation element containing it; transgene expression cassette and plasmid containing the same and transgenic plant containing such an expression cassette

3. Claims: partially 8, 9 and 13-19

Transcriptional activation element containing a transposable element other than a MITE-like element under subject 1 and 2; transgene expression cassette and plasmid containing the same and transgenic plant containing such an expression cassette

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9822593 A	28-05-1998	US 5955361 A	21-09-1999
		AU 5455498 A	10-06-1998
