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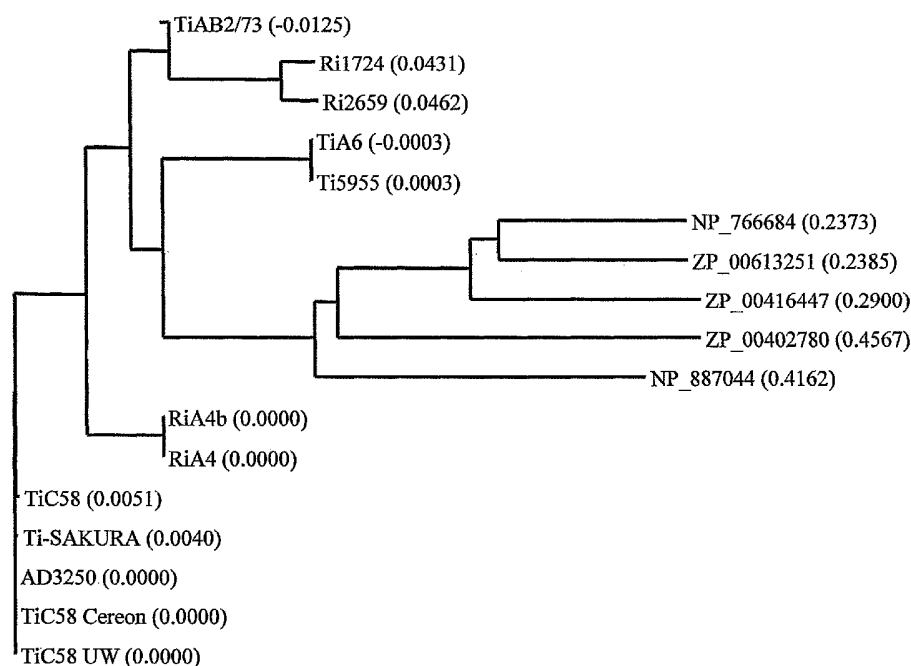
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[Continued on next page]

(54) Title: DISARMED AGROBACTERIUM STRAINS, RI-PLASMIDS, AND METHODS OF TRANSFORMATION BASED THEREON



(57) Abstract: The present invention relates "disarmed" strain variants of Agrobacterium strain K599 (NCPBP 2659), "disarmed" plasmid variants of the Ri-plasmid pRi2659, and derivatives thereof, and methods employing these strains and plasmids in plant transformation.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2005/009366

A. CLASSIFICATION OF SUBJECT MATTER

INV. C12N15/82 C07K14/415

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)

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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, WPI Data, PAJ, BIOSIS, EMBASE, FSTA, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GELVIN STANTON B: "Agrobacterium-mediated plant transformation: The biology behind the "gene-jockeying" tool." MICROBIOLOGY AND MOLECULAR BIOLOGY REVIEWS, vol. 67, no. 1, March 2003 (2003-03), pages 16-37, XP002363431 ISSN: 1092-2172 the whole document	1-35
E	WO 2005/121345 A (BASF PLANT SCIENCE GMBH; OLHOFT, PAULA; GRIST, LESLIE; BERNAL, LIBBY;) 22 December 2005 (2005-12-22) claim 13 ----- -/--	1-35



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

26 January 2006

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2005/009366

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ROBAGLIA C ET AL: "EXPRESSION VECTORS BASED ON THE AGROBACTERIUM RHIZOGENES RI PLASMID TRANSFORMATION SYSTEM" BIOCHIMIE (PARIS), vol. 69, no. 3, 1987, pages 231-237, XP002363432 ISSN: 0300-9084 page 234, column 2, paragraph 1 - page 236, column 1, last paragraph -----	1-35
Y	COMBARD A ET AL: "Physical map of the T-DNA region of Agrobacterium rhizogenes strain NCPPB2659." PLASMID. JUL 1987, vol. 18, no. 1, July 1987 (1987-07), pages 70-75, XP009060116 ISSN: 0147-619X the whole document -----	1-35
Y	MORIGUCHI K ET AL: "Analysis of unique variable region of a plant root inducing plasmid, pRi1724, by the construction of its physical map and library." DNA RESEARCH : AN INTERNATIONAL JOURNAL FOR RAPID PUBLICATION OF REPORTS ON GENES AND GENOMES. 30 JUN 2000, vol. 7, no. 3, 30 June 2000 (2000-06-30), pages 157-163, XP002363433 ISSN: 1340-2838 abstract -----	1-35
Y	MORIGUCHI K ET AL: "The complete nucleotide sequence of a plant root-inducing (Ri) plasmid indicates its chimeric structure and evolutionary relationship between tumor-inducing (Ti) and symbiotic (Sym) plasmids in rhizobiaceae" JOURNAL OF MOLECULAR BIOLOGY, LONDON, GB, vol. 307, no. 3, 30 March 2001 (2001-03-30), pages 771-784, XP004464164 ISSN: 0022-2836 abstract & DATABASE EMBL [Online] 3 October 2000 (2000-10-03), "Agrobacterium rhizogenes plasmid pRi1724 DNA, complete sequence." retrieved from EBI accession no. EM PRO:AP002086 Database accession no. AP002086 -/--	1-35

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2005/009366

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	& DATABASE UniProt 1 March 2001 (2001-03-01), MORIGUCHI: "Agrobacterium rhizogenes plasmid pRI1724 DNA, complete sequence." retrieved from EBI Database accession no. Q9F587-AGRRH abstract ----- DATABASE UniProt SULLIVAN: "Comparative sequence analysis of the symbiosis island of Mesorhizobium loti strain R7A." XP002364623 retrieved from EBI Database accession no. Q8KGP6_RHILO the whole document -----	34,35

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2005/009366

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.:

claims 1-33 completely, claims 34-35 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:

Invention 1: claims 1-33 completely, claims 34-35 partially

Relates to a non pathogenic Agrobacterium rhizogenes, plant transformation methods, polypeptides and nucleotides from Agrobacterium rhizogenes.

Inventions 2-145: claims 34-35

Relates to polypeptide and nucleotide sequences from Agrobacterium rhizogenes

Information on patent family members

PCT/EP2005/009366

Form PCT/ISA/210 (patent family annex) (April 2005)