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(74) Agents: GOLDMAN, Michael, L. et al.; Nixon Peabody
LLP, Clinton Square, P.O. Box 31051, Rochester, NY
14603-1051 (US).

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(71) Applicant (*for all designated States except US*): BOYCE
THOMPSON INSTITUTE FOR PLANT RESEARCH
[US/US]; Tower Road, Ithaca, NY 14853-1801 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): MARTIN, Gregory,
B. [US/US]; 30 Burdick Hill Road, Ithaca, NY 14850 (US).
ABRAMOVITCH, Robert, B. [CA/US]; 514 Wyckoff
Road, Apt. #3, Ithaca, NY 14580 (US). LIN, Nai, Wen
[—/US]; 92 Hudson Heights Apts., Ithaca, NY 14850 (US).
KIM, Young-Jin [KR/KR]; Jang-mi Apartement 26-dong
906-ho, Jamsil 6-dong, Songpa-ku, Seoul 138-916 (KR).

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(54) Title: BACTERIAL EFFECTOR PROTEINS WHICH INHIBIT PROGRAMMED CELL DEATH

(57) Abstract: The present invention relates to a bacterial effector protein which inhibits programmed cell death in eukaryotes and a nucleic acid molecule encoding such a protein. The present invention also relates to methods of suppressing programmed cell death in eukaryotes, delaying senescence in plants, and increasing protein expression in plants. The present invention further relates to a nucleic acid construct having a nucleic acid molecule encoding a first protein, which suppresses immunity by inhibition of programmed cell death in eukaryotes, coupled to a nucleic acid molecule encoding a second protein which is toxic when expressed in eukaryotes. Additionally, the present invention provides a method of stabilizing a transgenic plant transformed with such a nucleic acid construct. Finally, the present invention provides a method of treating subjects for a condition mediated by programmed cell death involving administering to the subject a bacterial effector protein which inhibits programmed cell death.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25247

A. CLASSIFICATION OF SUBJECT MATTER

IPC: C07K 1/00(2006.01)

USPC: 530/350

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. : 530/350

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)

Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | NIMCHUK et al. Eukaryotic Fatty Acylation Drives Plasma Membrane Targeting and Enhances Function of Several Type III Effector Proteins from Pseudomonas syringae. Cell. 12 May 200, Vol. 101, pages 353-363. | I-109 |

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 application or patent 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

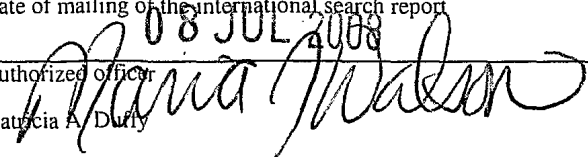
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"&" document member of the same patent family

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 Patricia A. Duffy

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
 Commissioner of Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Telephone No. 703-308-0196

Facsimile No. (571) 273-3201

Continuation of B. FIELDS SEARCHED Item 3:

WEST, DIALOG, COMMERCIAL SEQUENCE DATABASES.

SEARCH TERMS: SEQ ID NO:2, BACTERIAL PROTEIN, TRANSGENIC PLANT, TREAT?