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(81) Designated States (unless otherwise indicated, for every kind of national protection available):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: LEPIDOPTERAN MOTH CONTROL USING DOUBLE-STRANDED RNA CONSTRUCTS

(57) Abstract: Disclosed is a dsRNA construct that relates to a method to control Lepidopteran moths via double-stranded RNA interference of the PBAN/Pyrokinin gene.

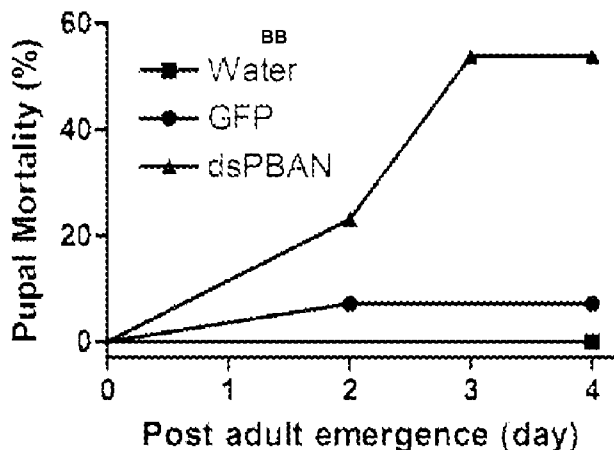


FIG. 1



— *with sequence listing part of description (Rule 5.2(a))*

**(88) Date of publication of the international search report:**  
7 September 2012

**A. CLASSIFICATION OF SUBJECT MATTER***C12N 15/113(2010.01)i, C12N 15/63(2006.01)i, C12N 15/82(2006.01)i, A01N 63/02(2006.01)i*

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)

C12N 15/113

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models  
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal), Pubmed

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BOBER, R. and RAFAELI, A. 'Gene-silencing reveals the functional significance of pheromone biosynthesis activating neuropeptide receptor (PBAN-R) in a male moth' Proceedings of the National Academy of Sciences. Vol.107(39),pp.16858-16862 (13 September 2010) See the abstract.	1-13
A	OHNISHI, A. et al. 'Targeted disruption of genes in the Bombyx mori sex pheromone biosynthetic pathway' Proceedings of the National Academy of Sciences. Vol.103(12), pp.4398-4403 (14 March 2006) See the abstract; p.4402, left col. para 1.	1-13
A	NACHMAN, R. J. et al. 'An amphiphilic, PK/PBAN analog is a selective pheromonotropic antagonist that penetrates the cuticle of a heliothine insect' Peptides. Vol.30(3), pp.616-621 (17 October 2008) See the abstract; p.620, left col. para 2; p.620, right col, para 2.	1-13
A	US 6358927 B1 (ALTSTEIN, M.) 19 March 2002 See the abstract; claim 1.	1-13

 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 but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

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"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

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# INTERNATIONAL SEARCH REPORT

International application No.

**PCT/US2011/064795**

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of :

a. a sequence listing filed or furnished

- on paper  
 in electronic form

b. time of filing or furnishing

- contained in the international application as filed  
 filed together with the international application in electronic form  
 furnished subsequently to this Authority for the purposes of search

2.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2011/064795**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6358927 B1		AU 2344995 A	16.11.1995
		CN 1071335 C	19.09.2001
		CN 1146771 A	02.04.1997
		DE 69528667 D1	28.11.2002
		EP 0804477 A1	05.11.1997
		EP 0804477 B1	23.10.2002
		IL 109405 D0	31.07.1994
		WO 95-29191 A1	02.11.1995