

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 September 2007 (13.09.2007)

PCT

(10) International Publication Number
WO 2007/103455 A3

(51) International Patent Classification:
G01N 33/53 (2006.01) **C12N 5/06** (2006.01)
G01N 33/567 (2006.01)

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(21) International Application Number:
PCT/US2007/005857

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, 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, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date: 6 March 2007 (06.03.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/743,410 6 March 2006 (06.03.2006) US
60/743,622 21 March 2006 (21.03.2006) US
11/528,927 27 September 2006 (27.09.2006) US
11/528,950 27 September 2006 (27.09.2006) US

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
29 November 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GENETIC PACKAGES AND USES THEREOF

(57) Abstract: The present invention provides unstructured recombinant polymers (URPs) and proteins containing one or more of the URPs. The present invention also provides microproteins, toxins and other related proteinaceous entities, as well as genetic packages displaying these entities. The present invention also provides recombinant polypeptides including vectors encoding the subject proteinaceous entities, as well as host cells comprising the vectors. The subject compositions have a variety of utilities including a range of pharmaceutical applications.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/05857

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G01N 33/53, 33/567; C12N 5/06 (2007.01)

USPC - 435/7.2

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)

USPC - 435/7.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC 435/334, 361 (see search terms below)

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

PubWest(PGPUB, USPT, JPAB, EPAB), Google Scholar. Search terms used:protein, toxin, ion, genetic package, polymer, ion channel, unstructured recombinant polymer,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2005/0260605 A1 (PUNNONEN et al.) 24 November 2005 (24.11.2005), para [0011]-[0013], [0126] and [0157]	6 and 8-12 ----- 1-5 and 7
Y	US 5,089,474 A (Castro et al.) 18 Feb 1992 (18.02.1992), col 1, ln 1-60	1-5, 7, 13-18 and 22-24
Y	Doyle et al. Crystal Structures of a Complexed and Peptide-Free Membrane Protein Binding Domain: Molecular Basis of Peptide Recognition by PDZ. Cel, June 1996, V 85, pp 1067-1076, especially pg 1072-1073 [online] [Retrieved on 2007-07-10] [Retrieved from the internet http://www.sciencedirect.com/science?_ob=MIimg&_imagekey=B6WSN-41BD7T1-F-X&_cdi=7051&_user=10&_coverDate=06%2F28%2F1996&_sk=%23TOC%237051%231996%23999149992%23212330%23FLA%23display%23Volume_85,_Issue_7,_Pages_943-1158_(28_June_1996)%23tagged%23Volume%23first%3D85%23Issue%23first%3D7%23Page%23first%3D943%23last%3D1158%23date%23(28_June_1996)%23&view=c&_gw=y&wchp=dGLzVlz-zSkWb&md5=335c2e7ff76ac1aeb7f4ee69f34427ed&ie=/sarticle.pdf pg 1072, col 1, para 1; pg 1073, col 2, para 1; and pg 173, col 2, para 2.	13-18 and 22-24

☐ Further documents are listed in the continuation of Box C.

* 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

"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

10 July 2007 (10.07.2007)

Date of mailing of the international search report

26 SEP 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents

P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

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PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/05857

Box No. 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.: 19-21
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. 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:

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 additional fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.