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(54) Title: BINDING PEPTIDES: METHODS FOR THEIR GENERATION AND USE

(57) Abstract: Provided are means, methods for generating binding peptide associated with a suitable core region, the resulting proteinaceous molecule and uses thereof. The invention provides a solution to the problems associated with the use of binding molecules over their entire range of use. Binding molecules can be designed to accommodate extreme conditions of use such as extreme temperatures or pH. Alternatively, binding molecules can be designed to respond to very subtle changes in the environment.

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INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/543 C07K1/22

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 G01N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/23580 A (GARDNER REBECCA ; AFFIBODY TECHNOLOGY SWEDEN AB (SE); UHLEN MATHIAS (S) 27 April 2000 (2000-04-27) page 15, last line - page 17, line 5; claim 1	1-14,18, 21
A	US 6 194 552 B1 (ORTHNER CAROLYN ET AL) 27 February 2001 (2001-02-27) column 5, line 44 - column 6, line 3; claim 1	1-21

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"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

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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

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Date of the actual completion of the international search	Date of mailing of the international search report
14 December 2004	22/12/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Lanzrein, M

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL2004/000407

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NYGREN PER-AKE ET AL: "Scaffolds for engineering novel binding sites in proteins" CURRENT OPINION IN STRUCTURAL BIOLOGY, CURRENT BIOLOGY LTD., LONDON, GB, vol. 7, no. 4, 1997, pages 463-469, XP002196760 ISSN: 0959-440X figures 1a,b	4
A	DOMEN P L ET AL: "Site Directed Immobilization of Proteins" 1990, JOURNAL OF CHROMATOGRAPHY, ELSEVIER SCIENCE PUBLISHERS B.V. AMSTERDAM, NL, PAGE(S) 293-302 , XP002956086 ISSN: 0021-9673	
A	US 5 998 222 A (WEIMER BART C) 7 December 1999 (1999-12-07)	
P,X	EP 1 318 195 A (CATCHMABS B V) 11 June 2003 (2003-06-11) page 7, line 50 - page 8, line 46	1-21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL2004/000407

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

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

   a. type of material

   [X] a sequence listing

   [ ] table(s) related to the sequence listing

   b. format of material

   [X] in written format

   [X] in computer readable form

   c. time of filing/furnishing

   [ ] contained in the international application as filed

   [ ] filed together with the international application in computer readable form

   [X] furnished subsequently to this Authority for the purpose of search

2. [ ] In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto 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
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0023580 A	27-04-2000	AU 773368 B2	20-05-2004
		AU 6353299 A	08-05-2000
		CA 2347960 A1	27-04-2000
		EP 1123389 A1	16-08-2001
		WO 0023580 A1	27-04-2000
		JP 2002527107 T	27-08-2002
		NO 20011969 A	19-06-2001
		ZA 200103252 A	22-07-2002
US 6194552 B1	27-02-2001	NONE	
US 5998222 A	07-12-1999	NONE	
EP 1318195 A	11-06-2003	EP 1318195 A1	11-06-2003
		CA 2469802 A1	19-06-2003
		EP 1453963 A2	08-09-2004
		WO 03050283 A2	19-06-2003