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(54) Title: SOLUTION PHASE BIOPANNING METHOD USING ENGINEERED DECOY PROTEINS

(57) Abstract: The invention relates to a method of directing selection of biological therapeutic molecules to specific functional domains of the target biologic molecule. Selection is directed by the use of closely related molecules, where one is a decoy and the other contains the targeted domain or epitope. The invention is based on the use of physical data, which may be combined with derived data, to ascertain that the decoy and the target differ only in the specific functional domain or epitope where the binding will be directed.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/13857

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8): **C07K 16/00**(2006.01);**C12P 21/08**(2006.01);**A61K 39/00**(2006.01),**39/395**(2006.01);**G01N 33/53**(2006.01),**33/00**(2006.01);**C12N 15/09**(2006.01)

 USPC: 530/387.1,387.3,388.1,388.22;424/133.1,139.1,141.1,144.1;435/7.1,7.93,69.6
 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. : 530/387.1, 387.3, 388.1, 388.22; 424/133.1, 139.1, 141.1, 144.1; 435/7.1, 7.93, 69.6

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.
Y	Zhou et al., Proc. Natl. Acad. Sci. USA, 2002, 99:5241-5246, see entire document	1-12
Y	Ke et al., J. Biol. Chem., 1997 272:16603-16609, see entire document	1-12
Y	Parsons et al., Protein Engineering, 1996, 9:1043-1049, see entire document.	1-12
Y	Horn et al., FEBS Letters, 1999, 463:115-120, see entire document	1-12
Y	Carson et al., Blood, 1987, 70:490-493.	1-12
Y	US 5,223,427 (Edgington et al.) 29 June 1993 (29.06.1993) see entire document	1-12
Y	Treacy G., Human and Experimental Toxicology, 2000, 19:226-228, see entire document.	1-12

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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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International application No.
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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Lawson et al., J. Clin. Invest., 1997, 99:1729-1738, see entire document.	1-12
Y	Huang et al., J. Mol. Biol., 1998, 275:873-894, see entire document	1-12

Continuation of B. FIELDS SEARCHED Item 3:
USPAT USPGPUB EPO JPO DERWENT (EAST)
MEDLINE AGRICOLA BIOSIS CAPLUS EMBASE SCISEARCH (STN)
library, phage, antibody, immunoglobulin, biopanning, tissue factor, TF8-5G9, decoy