

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 January 2003 (03.01.2003)

PCT

(10) International Publication Number
WO 03/000856 A3

(51) International Patent Classification⁷: **C12Q 1/68**, C12P
19/34, C07H 21/02, 21/04

(74) Agent: **ELBING, Karen, L.**; Clark & Elbing LLP, 101
Federal Street, Boston, MA 02110 (US).

(21) International Application Number: PCT/US02/19937

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 20 June 2002 (20.06.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/300,267 21 June 2001 (21.06.2001) US

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

(63) Related by continuation (CON) or continuation-in-part
(CIP) to earlier application:
US 60/300,267 (CIP)
Filed on 21 June 2001 (21.06.2001)

(71) Applicant (*for all designated States except US*): **PHY-
LOS, INC.** [US/US]; 128 Spring Street, Lexington, MA
02421 (US).

Published:
— with international search report

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KURZ, Markus**
[DE/US]; 44 Pine Street, Newton, MA 02460 (US).
LOHSE, Peter [US/US]; 50 Golden Ball Road, Weston,
MA 02493 (US).

(88) Date of publication of the international search report:
13 March 2003

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: IN VITRO PROTEIN INTERACTION DETECTION SYSTEMS

(57) Abstract: Disclosed herein are DNA-protein fusion molecules and their use in *in vitro* assays for the identification of interac-
tions between proteins or other molecules, the identification of transcriptional activator proteins, and the detection of compounds that
inhibit protein/protein or protein/compound interactions. Also disclosed herein are the use of such DNA-protein fusion molecules
in *in vitro* assays for the selection of interacting proteins and transcriptional activator proteins out of libraries.



WO 03/000856 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/19937

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; C12P 19/34; C07H 21/02, 21/04

US CL : 435/6, 91.1, 91.2; 536/23.1

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. : 435/6, 91.1, 91.2; 536/23.1

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)
WEST, DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00/32823 A1 (PHYLOS, INC.) 08 June 2000, whole document.	1-4
A	WO 99/51773 A1 (PHYLOS, INC.) 14 October 1999.	5-15

☐ 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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

31 October 2002 (31.10.2002)

Date of mailing of the international search report

12 DEC 2002

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

Teresa Sitzelecka

Telephone No. (703) 308-0196