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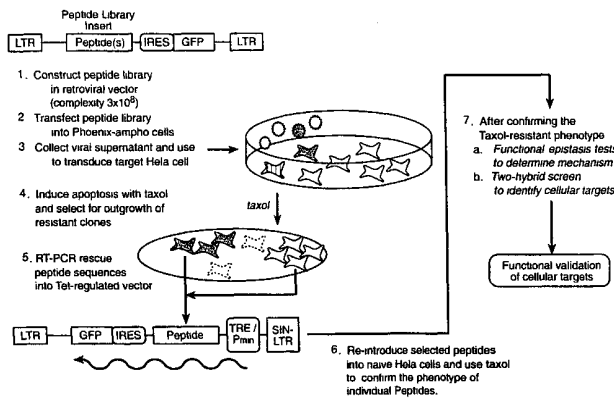
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- (72) Inventor: **XU, Xiang**: 185 Cymbidium Circle, South San Francisco, CA 94080 (US).
- (21) International Application Number: PCT/US00/14812
- (74) Agents: **BREZNER, David, J.** et al.; Flehr, Hohbach, Test, Albritton & Herbert LLP, Suite 3400, 4 Embarcadero Center, San Francisco, CA 94111-4187 (US).
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- (71) Applicant: **RIGEL PHARMACEUTICALS, INC.** [US/US]; 240 East Grand Avenue, South San Francisco, CA 94080 (US).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, 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,

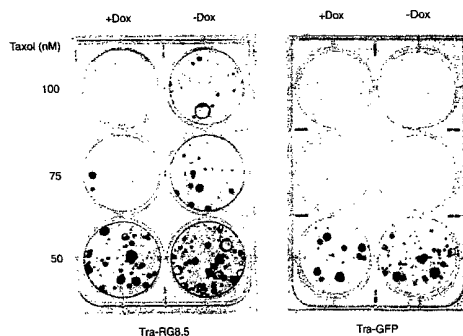
[Continued on next page]

(54) Title: IDENTIFICATION OF NOVEL MECHANISMS OF DRUG RESISTANCE



A

(57) Abstract: The present invention provides methods of identifying candidate agents that bind to and regulate cellular proteins involved in multi-drug resistance (MDR). As outlined herein, there are two basic types of screens that can be done: 1) screens for compounds that confer a multidrug resistance phenotype; and, 2) screens for compounds that ameliorate a multidrug resistance phenotype. Once target molecules have been identified, as is outlined herein with the identification of XAPC7 and Zeta, and, when inhibited by the RGP8.5 peptide confer multidrug resistance, the XAPC7 and Zeta molecules can be used in screens for candidate drugs that bind to them and modulate their activity.



B



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IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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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.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/14812

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G01N33/50 G01N33/68 G01N33/53

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)

WPI Data, EPO-Internal, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | WO 97 27212 A (RIGEL PHARMACEUTICALS INC) 31 July 1997 (1997-07-31) cited in the application abstract page 46, line 10 -page 47, line 24 ---- | 1-11,14, 16 |
| A | DATABASE WPI Section Ch, Week 199402 Derwent Publications Ltd., London, GB; Class B04, AN 1994-011024 XP002152781 & JP 05 317059 A (BIO MATERIAL KENKYUSHO KK), 3 December 1993 (1993-12-03) abstract ---- | 14-16,18 |
| A | WO 96 11207 A (GEN HOSPITAL CORP) 18 April 1996 (1996-04-18) claim 4 ----- | 14-17 |

Further documents are listed in the continuation of box C.

Patent family members are listed in 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 document 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)
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- *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

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14 November 2000

Date of mailing of the international search report

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims 20-25 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.1

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/14812

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
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| | | WO 9727213 A | 31-07-1997 |
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| JP 5317059 A | 03-12-1993 | NONE | |
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