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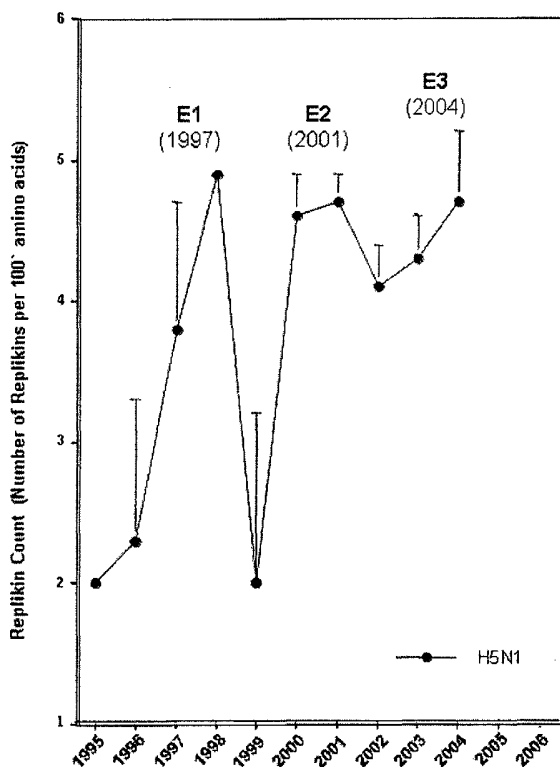
ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,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

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR IDENTIFYING COMPLEX PATTERNS OF AMINO ACIDS



Increasing Replikin Concentration ("Replikin Count") of Hemagglutinin Protein of H5N1 Prior to Three 'Bird Flu' Epidemics.

(57) Abstract: A method and system are disclosed for identifying and/or locating complex patterns in an amino acid sequence stored in a computer file or database. According to an aspect of the present invention, techniques are provided to facilitate queries of protein databases. For protein descriptions received in response to the queries, embodiments of the present invention may scan the received protein descriptions to identify and locate Replikin patterns. A Replikin pattern is defined to be a sequence of 7 to about 50 amino acids that include the following three (3) characteristics, each of which may be recognized by an embodiment of the present invention: (1) the sequence has at least one lysine residue located six to ten amino acid residues from a second lysine residue; (2) the sequence has at least one histidine residue; and (3) at least 6% of the amino acids in the sequence are lysine residues.

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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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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/US2005/014443

A. CLASSIFICATION OF SUBJECT MATTER
 INV. G06F19/00 G06F17/00 G01N33/50 C07K16/10

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)
 G06F

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, BIOSIS, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/151677 A1 (BOGOCH SAMUEL ET AL) 17 October 2002 (2002-10-17)	1-8
X	paragraphs [0004] - [0007], [0020], [0026], [0047] - [0063]; claims 18-28	1-8
X	BOGOCH S, BOGOCH ES: "Rapid replication and Replikintm structures: basis of the AMASRTest and CAVAXR." CANCER DETECTION AND PREVENTION ONLINE, 9 February 2002 (2002-02-09), XP002350483 the whole document	1-8

Further documents are listed in the continuation of Box C.

See patent family 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)
- *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

21 October 2005

Date of mailing of the international search report

11.04.06

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Seranski, P

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 11-16

Claims 14-16 fail to comply with the requirements of Art.6 PCT to such an extent that a meaningful search could not be carried out (Art.17(2)(a)(ii) PCT). The designation "Replikin" could not be found in any of the available prior art documents. Therefore, "Replikin" is regarded as an internal designation which (itself) does not provide a technical teaching to the skilled person. Claims referring to a product (or a method) defined by said designation therefore lack clarity. The Replikin must be clearly and unambiguously defined by its sequence.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/014443

Box 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.: 11-16
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:
see FURTHER INFORMATION sheet PCT/ISA/210

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box 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:

see additional sheet

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 an additional fee, this Authority did not invite payment of any additional fee.

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.:
1-8

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8

Method of recognizing and counting the numbers of replikin patterns in a protein; Machine readable medium having stored executable instructions for said method; computer system for carrying out said instructions.

2. claims: 9-10

Methods of recognizing a pattern of amino acids.

3. claims: 11-13

Method of recognizing a scaffolding structure of amino acids, comprising assembling a list of Replikin patterns occurring in a plurality of proteins.

4. claim: 14

Method of forecasting onset of a disease based on counting replikin patterns in a proteins a different times.

5. claims: 15-16

Method of synthesizing a vaccine based on recognition of "Replikin" patterns.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2005/014443

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002151677 A1	17-10-2002	US 2003180328 A1	25-09-2003