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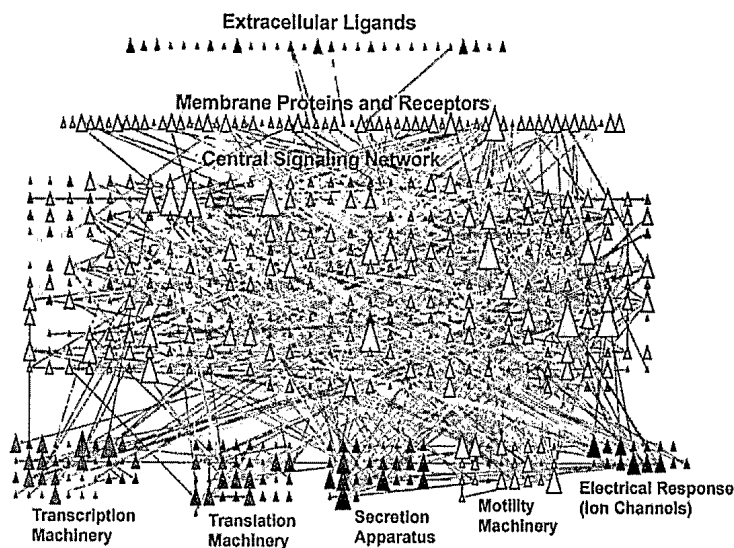
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(54) Title: METHODS TO ANALYZE BIOLOGICAL NETWORKS



(57) Abstract: The present invention relates to a family of graph-theory based methods for the analysis of intracellular signaling networks created from biomedical literature using data-mining processes or acquired through high-content experiments. The methods of the present invention can be used to identify functional dynamic modules within biological networks that can be analyzed quantitatively for input/output relationships. In particular, the present invention relates to a computer-aided method for the in-silico analysis of signaling and other cellular interaction pathways to rank drug targets, identify biomarkers, predict side effects, and classify/diagnose patients.

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06G 7/48, G06F 3/048 (2008.01)

USPC - 703/11, 715/764

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)
USPC: 703/11, 715/764Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 600/346, 306, 547, 705/3, 706/12, 16 (see text search below)Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Electronic Databases Searched: PubWEST(USPT,PGPB,EPAB,JPAB); USPTO, Google, Answers.com, Google Scholar
Search Terms Used: Identify, rank, biochemical, biomolecule, node, collection, computer, node, transduction, cell, metabolism, signal, pathway, graph, publication, literature, protein, peptide, nucleic acids, algorithm

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2004/0093331 A1 (GARNER et al.) 13 May 2004 (13.05.2004) para [0009], [0011], [0014], [0016], [0017], [0020], [0021], [0024]-[0027], [0035], [0043], [0054], [0066], [0081]-[0082], [0086], [0109], [0112], [0113], [0131], [0132], [0145], [0147], [0149], [0156]-[0158], [0160], [0166], [0200], [0203]-[0204], [0216], [0218]-[0221], [0230]-[0231], [0287] and [0296]	1-13 and 15-26 ----- 14 and 27
Y	US 2004/0024772 A1 (ITAI) 05 February 2004 (05.02.2004) para [0136]	14 and 27
A	US 2003/0233218 A1 (SCHILLING, C.) 18 December 2003 (18.12.2003) entire document	1-27
A	US 2003/0068610 A1 (RZHETSKY et al.) 10 April 2003 (10.04.2003) entire document	1-27
A	US 2003/0033126 A1 (LINCOLN et al.) 13 February 2003 (13.02.2003) entire document	1-27



Further documents are listed in the continuation of Box C.



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"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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