



(51) International Patent Classification:
G06F 17/18 (2006.01) **C12Q 1/68** (2006.01)

(21) International Application Number:
PCT/SG2010/000079

(22) International Filing Date:
10 March 2010 (10.03.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/158,948 10 March 2009 (10.03.2009) US

(71) Applicant (for all designated States except US): **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis, Singapore 138632 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MILLER, Lance, D.** [US/SG]; Genome Institute of Singapore, 60 Biopolis Street, Singapore 138672 (SG). **KARUTURI, Krishna, Murthy** [IN/SG]; Genome Institute of Singapore, 60 Biopolis Street, Singapore 138672 (SG).

(74) Agent: **WATKIN, Timothy, Lawrence, Harvey;** MARKS & CLERK SINGAPORE LLP, Tanjong Pagar, PO Box 636, Singapore 910816 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

— with sequence listing part of description (Rule 5.2(a))

(54) Title: A METHOD FOR THE SYSTEMATIC EVALUATION OF THE PROGNOSTIC PROPERTIES OF GENE PAIRS FOR MEDICAL CONDITIONS, AND CERTAIN GENE PAIRS IDENTIFIED

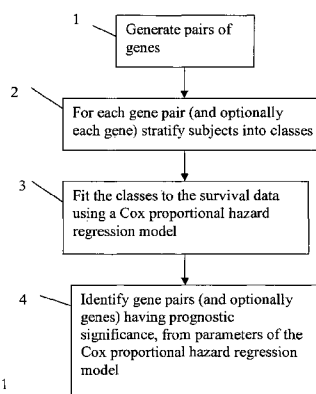


Fig. 1

(57) Abstract: A method is proposed identification of pairs of genes for which the respective gene expression values in a subject are statistically significant in relation to a medical condition, for example cancer, or more particularly breast cancer. Many pairs of genes are generated, and for each pair of genes clinical data is used to fit a statistical model to obtain the statistical significance of the ratio of the corresponding expression values. The clinical data characterizes for each of the patients the level of expressions of the genes and times until a clinical endpoint of interest.