

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 September 2022 (15.09.2022)



(10) International Publication Number
WO 2022/191780 A1

- (51) **International Patent Classification:**
C12Q 1/686 (2018.01) *G01N 33/48* (2006.01)
- (21) **International Application Number:**
PCT/SG2022/050127
- (22) **International Filing Date:**
11 March 2022 (11.03.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
10202102511P 11 March 2021 (11.03.2021) SG
- (71) **Applicants:** **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis North Tower, Singapore 138632 (SG). **NALAGENETICS PTE. LTD.** [SG/SG]; 79 Ayer Rajah Crescent, #05-03, Singapore 139955 (SG).
- (72) **Inventors:** **LEZHAHA, Alexander**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **IRWANTO, Astrid**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **JAIN, Kanika**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **KOTHARY, Anar Sanjayku-**

mar; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **TAN, Jocelyn**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **NG, Fiona**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **TAN, Zhihao**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG).

(74) **Agent:** **AMICA LAW LLC**; 77 Robinson Road, #22-01 Robinson 77, Singapore 068896 (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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

(54) **Title:** A METHOD FOR ASSESSING THE POTENTIAL EFFECT OF THERAPEUTICS ON AN INDIVIDUAL

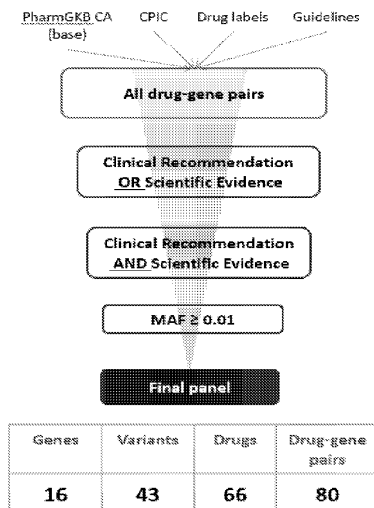


Figure 1

(57) **Abstract:** The invention relates to a method for assessing and evaluating the potential effect of therapeutics on an individual. In particular, the invention uses real-time PCR-based pharmacogenomic assays in assessing such potential effects. In an aspect of the present invention, there is provided a method of assessing or evaluating a subject's likelihood of developing an adverse reaction in response to an administration of a therapeutic agent, or a method of assessing or evaluating a therapeutic agent's efficacy on a subject, the method comprising determining in a single real-time polymerase chain reaction run the presence of a variant in a set of genes consisting of CYP2D6, CYP2C9, CYP2C19 and SLCO1B1 in a sample obtained from the subject, wherein the presence of a variant on any one of the genes in the set of genes is indicative of a risk to an adverse reaction and/or a change in efficacy to the therapeutic agent.

[Continued on next page]

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, 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))*
— *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*