

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 March 2025 (06.03.2025)



(10) International Publication Number
WO 2025/048717 A1

(51) International Patent Classification:

C12Q 1/6809 (2018.01) C12Q 1/6883 (2018.01)

(21) International Application Number:

PCT/SG2024/050544

(22) International Filing Date:

23 August 2024 (23.08.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202302421T 28 August 2023 (28.08.2023) SG

(71) Applicant: **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10, Connexis North Tower, Singapore 138632 (SG).

(72) Inventors: **WUESTEFELD, Torsten**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG). **POTAPOVA, Anna**; c/o Genome Institute of Singapore, 60 Biopolis Street, #02-01, Genome, Singapore 138672 (SG).

(74) Agent: **DAVIES COLLISON CAVE ASIA PTE. LTD.**; 10 Collyer Quay, #07-01 Ocean Financial Centre, Singapore 049315 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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))

(54) Title: GENE SIGNATURES FOR LIVER DISEASE AND USES THEREOF

(57) Abstract: The present invention relates, in general terms, to biomarkers for liver disease. Provided herein are gene signatures for non-alcoholic fatty liver disease (NAFLD) and methods of use thereof for diagnosis, classification and monitoring of NAFLD in a subject using extracellular vesicle samples from the subject.

WO 2025/048717 A1