

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
23 May 2024 (23.05.2024)



(10) International Publication Number
WO 2024/108145 A2

- (51) **International Patent Classification:**
C12Q 1/686 (2018.01) *C12Q 1/6806* (2018.01)
- (21) **International Application Number:**
PCT/US2023/080328
- (22) **International Filing Date:**
17 November 2023 (17.11.2023)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/384,299 18 November 2022 (18.11.2022) US
- (71) **Applicant:** SEQUIRE DX, INC. [US/US]; 1440 Main Street, Suite 320, Waltham, Massachusetts 02451 (US).
- (72) **Inventors:** SMITH, Douglas; c/o SeQure Dx, Inc., 1440 Main Street, Suite 320, Waltham, Massachusetts 02451 (US). XIN, Xiaofeng; c/o SeQure Dx, Inc., 1440 Main Street, Suite 320, Waltham, Massachusetts 02451 (US). YU, Hongyao; c/o SeQure Dx, Inc., 1440 Main Street, Suite 320, Waltham, Massachusetts 02451 (US).
- (74) **Agent:** GOTTFRIED, Lynn F et al.; ONE FINANCIAL CENTER, BOSTON, Massachusetts 02111 (US).
- (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).

Published:

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) **Title:** METHODS FOR SELECTIVE AMPLIFICATION FOR EFFICIENT REARRANGEMENT DETECTION

(57) **Abstract:** The present disclosure relates to development of methods for quantitative detection of genomic rearrangement. In particular, as described in greater detail below, some embodiments of the disclosure provide methods which involve tagmentation in combination with amplification techniques to reduce sample processing times, reduce background, and increase sensitivity for quantitative rearrangement detection.



WO 2024/108145 A2