



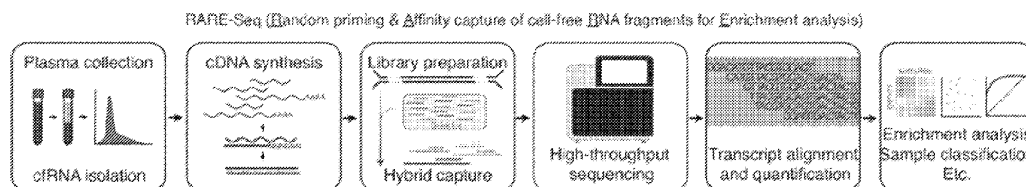
- (51) **International Patent Classification:**
Not classified
- (21) **International Application Number:**
PCT/US2024/029513
- (22) **International Filing Date:**
15 May 2024 (15.05.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/502,368 15 May 2023 (15.05.2023) US
- (71) **Applicant: THE BOARD OF TRUSTEES OF THE LE-
LAND STANFORD JUNIOR UNIVERSITY [US/US];**
Building 170, Third Floor, Main Quad, P.O. Box 20386,
Stanford, CA 94305-2038 (US).
- (72) **Inventors: DIEHN, Maximilian;** 159 Mesa Verde Way,
San Carlos, CA 94070 (US). **ALIZADEH, Arash, Ash;**
407 Nevada Avenue, San Mateo, CA 94402 (US).
NESSELBUSH, Monica; Building 170, Third Floor, Main
Quad, P.O. Box 20386, Stanford, CA 94305-2038 (US).
LUCA, Bogdan; Building 170, Third Floor, Main Quad,
P.O. Box 20386, Stanford, CA 94305-2038 (US).
- (74) **Agent: THOMAS, Charles, A.;** KPPB LLP, 3780 Kilroy
Airport Way, Suite 320, Long Beach, CA 90806 (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))*
- *with sequence listing part of description (Rule 5.2(a))*

- (54) **Title:** SYSTEMS AND METHODS FOR SEQUENCING OF CELL-FREE RNA

Fig. 3A



- (57) **Abstract:** Systems and methods for sequencing of cell-free RNAs are provided. Targeted sequencing can be performed using a panel of transcripts that are genes of rare abundance within a population of control samples of cell-free nucleic acids.