

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 October 2023 (12.10.2023)



(10) International Publication Number
WO 2023/196526 A1

(51) International Patent Classification:
C12Q 1/6841 (2018.01) *G01N 33/53* (2006.01)
C12Q 1/6804 (2018.01)

(21) International Application Number:
PCT/US2023/017773

(22) International Filing Date:
06 April 2023 (06.04.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/328,188 06 April 2022 (06.04.2022) US

(71) Applicant: **10X GENOMICS, INC.** [US/US]; 6230
Stoneridge Mall Road, Pleasanton, California 94588-3260
(US).

(72) Inventor: **SCHNALL-LEVIN, Michael**; c/o 10x Ge-
nomics, Inc., 6230 Stoneridge Mall Road, Pleasanton, Cal-
ifornia 94588-3260 (US).

(74) Agent: **YIN, Bu** et al.; Morrison & Foerster LLP, 12531
High Bluff Drive, Suite 100, San Diego, California
92130-2040 (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.

(54) Title: METHODS FOR MULTIPLEX CELL ANALYSIS

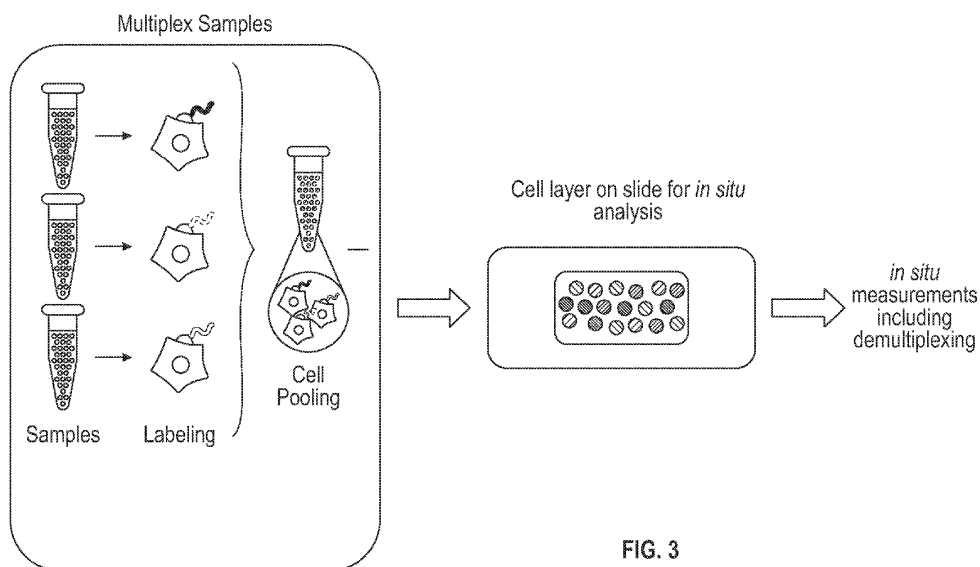


FIG. 3

(57) **Abstract:** Provided herein in some aspects are methods, compositions, kits, and systems for performing multiplexed single-cell analysis on an in situ platform, providing alternatives which have a higher cell throughput and/or lower cost per cell compared to current single-cell analysis techniques. In some embodiments, the methods disclosed herein comprise using labeling agents that comprise sample- specific barcodes and/or cell feature specific barcodes (e.g., analyte specific barcodes) to label single-cell populations, immobilizing the labeled cells, and performing in situ detection of the labeling agents and/or other features including cellular analytes of the labeled cells.

[Continued on next page]

(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:

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