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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 August 2025 (28.08.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/178905 A1

(51) International Patent Classification:
*B01L 3/00* (2006.01) *C12M 1/00* (2006.01)
*B01L 9/00* (2006.01)

(21) International Application Number:
PCT/US2025/016399

(22) International Filing Date:
19 February 2025 (19.02.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/556,635 22 February 2024 (22.02.2024) US

(71) Applicants: **THERMO FISHER SCIENTIFIC OY** [FI/FI]; Ratastie 2, FI-01620 Vantaa (FI). **LIFE TECHNOLOGIES CORPORATION** [US/US]; 5823 Newton Drive, Carlsbad, California 92008 (US).

(72) Inventors: **HÄRMÄ, Ville**; c/o Thermo Fisher Scientific Oy, Ratastie 2, FI-01620 Vantaa (FI). **GOLUB, Ognjen**; c/o Life Technologies Corporation, 5823 Newton Drive, Carlsbad, California 92008 (US). **HARVEY, Austin**; c/o Life Technologies Corporation, 5823 Newton Drive, Carlsbad, California 92008 (US).

(74) Agent: **MANTILLA, Edgardo**; Life Technologies Corporation, 5823 Newton Drive, Carlsbad, California 92008 (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, UY, 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).

(54) Title: SAMPLE COMPARTMENTALIZATION MODULE

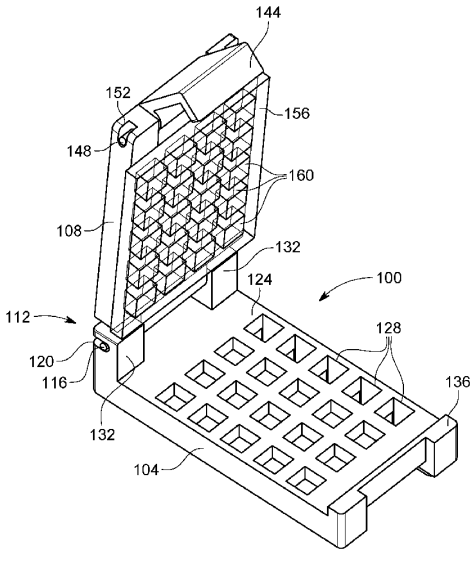



FIG. 6A

(57) Abstract: Described herein is a tissue sample compartmentalization apparatus and methods for labeling and identifying one or more analytes in a tissue sample. In one embodiment the apparatus comprises a tissue sample compartmentalization module having a first member defining a first plurality of apertures; and a second member defining a second plurality of apertures, the second member pivotably connected to the first member, wherein the second member is configured to engage with the first member to form a closed configuration or pivot relative to the first member between an open configuration and a closed configuration, wherein in the closed configuration the first plurality of apertures and the second plurality of apertures are aligned and form a plurality of sample compartments. The tissue sample compartmentalization module permits individual sample environments for sectioned tissue microscope slides.

WO 2025/178905 A1

[Continued on next page]

**Published:**

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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*