

(51) International Patent Classification:
C12Q 1/6841 (2018.01)(21) International Application Number:
PCT/US2022/028012(22) International Filing Date:
06 May 2022 (06.05.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/185,511 07 May 2021 (07.05.2021) US
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(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, 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, ME, MG, MK, MN, 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, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,

(54) Title: SPATIOTEMPORALLY RESOLVED TRANSCRIPTOMICS AT SUBCELLULAR RESOLUTION

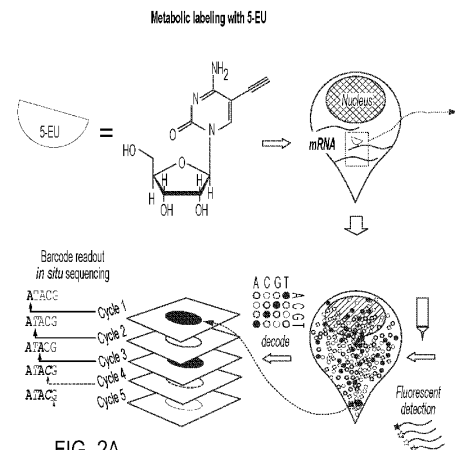
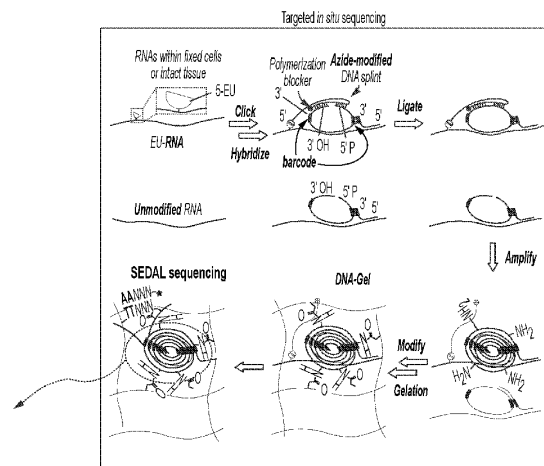


FIG. 2A

(57) **Abstract:** The present disclosure provides methods for profiling spatiotemporal gene expression, including methods for profiling spatiotemporal gene expression *in vivo* in a subject. The present disclosure also provides methods for profiling the role of post-transcriptional modification in spatiotemporal gene expression, methods for studying the role of spatiotemporal gene expression in the development or progression of a disease or disorder, methods for screening for an agent capable of modulating spatiotemporal gene expression, methods for diagnosing a disease or disorder in a subject, and methods for treating a disease or disorder in a subject. Oligonucleotide probes useful in the methods described herein are also provided by the present disclosure. The present disclosure also provides kits comprising the oligonucleotide probes disclosed herein. Systems for profiling spatiotemporal gene expression are also provided by the present disclosure.

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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, 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))*