

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
08 December 2022 (08.12.2022)



(10) International Publication Number
WO 2022/256597 A1

(51) International Patent Classification:
C12Q 1/6825 (2018.01)

(21) International Application Number:
PCT/US2022/032068

(22) International Filing Date:
03 June 2022 (03.06.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/197,106 04 June 2021 (04.06.2021) US

(71) Applicant: TRANSLATE BIO, INC. [US/US]; 29
Hartwell Avenue, Lexington, MA 02421 (US).

(72) Inventors: DEROSA, Frank; c/o Translate Bio, Inc., 29
Hartwell Avenue, Lexington, MA 02421 (US). GU, Xi-
aobo; c/o Translate Bio, Inc., 29 Hartwell Avenue, Lexing-
ton, MA 02421 (US). DIAS, Anusha; c/o Translate Bio,
Inc., 29 Hartwell Avenue, Lexington, MA 02421 (US).

(74) Agent: JIA, Lingyun et al.; Proskauer Rose LLP, One In-
ternational Place, Boston, MA 02110 (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,
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).

Declarations under Rule 4.17:

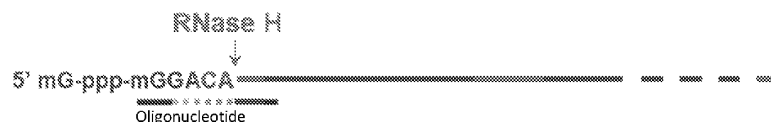
— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))
— with sequence listing part of description (Rule 5.2(a))

(54) Title: ASSAY FOR QUANTITATIVE ASSESSMENT OF MRNA CAPPING EFFICIENCY

FIG. 3



(57) Abstract: The invention relates to a method of quantifying capping efficiency in a sample from an in vitro transcription reaction mixture comprising a plurality of mRNA transcript, characterized by a step of contacting the mRNA transcripts with an oligonucleotide complementary to a sequence of nucleotides in the 5' untranslated region of the mRNA transcripts to form an mRNA:DNA hybrid between the oligonucleotide and the sequence of nucleotides of the mRNA transcripts in order to release the first five, six, or seven nucleotides of the mRNA transcripts using nuclease (e.g., RNase H) digestion.

WO 2022/256597 A1