

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
02 June 2022 (02.06.2022)



(10) International Publication Number
WO 2022/112578 A1

(51) International Patent Classification:
C12Q 1/6886 (2018.01)

(21) International Application Number:
PCT/EP2021/083429

(22) International Filing Date:
29 November 2021 (29.11.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20306461.3 27 November 2020 (27.11.2020) EP

(71) Applicants: **CENTRE LEON BERARD** [FR/FR]; 28, rue Laënnec, 69008 LYON (FR). **CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)** [FR/FR]; 3, rue Michel Ange, 75016 PARIS (FR). **INSERM (INSTITUT NATIONAL DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE)** [FR/FR]; 101, rue de Tolbiac, 75013 PARIS (FR). **UNIVERSITE CLAUDE BERNARD LYON 1** [FR/FR]; 43, bvd du 11 Novembre 1918, 69100 VILLEURBANNE (FR).

(72) Inventors: **DIAZ, Jean-Jacques**; 8 rue du Colonel, 69200 VENISSIEUX (FR). **MARCEL-TERRIER, Virginie**; 67 Rue Bataille, 69008 LYON (FR). **KIELBASSA, Janice**; 10 Rue André Malraux, 69960 CORBAS (FR). **CATEZ, Frédéric**; 13 Rue du 11 novembre, 69740 GENAS (FR).

(74) Agent: **REGIMBEAU**; 20, rue de Chazelles, 75847 PARIS CEDEX 17 (FR).

(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, IR, IS, IT, 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: RIBOSOMAL RNAS 2'O-METHYLATION AS A NOVEL SOURCE OF BIOMARKERS RELEVANT FOR DIAGNOSIS, PROGNOSIS AND THERAPY OF CANCERS

(57) Abstract: The present invention relates to a method for identifying potentially relevant markers in cancer diagnosis, prognosis and/or therapy, comprising an analysis approach which is based on the detection of variations in methylation of ribosomal RNAs in a biological sample. The present invention also relates to several applications of this analysis approach for determining the cancer subtype and/or the prognosis of a patient suffering from cancer, for estimating or assessing the benefit of a treatment in such patient, but also for selecting one or more therapeutic drug(s) targeting ribosomes useful for treating cancers.

WO 2022/112578 A1