

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
09 August 2018 (09.08.2018)



(10) International Publication Number
WO 2018/144775 A1

(51) International Patent Classification:

A61K 39/00 (2006.01) *A61K 39/39* (2006.01)

Published:

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

(21) International Application Number:

PCT/US2018/016510

(22) International Filing Date:

01 February 2018 (01.02.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/453,465	01 February 2017 (01.02.2017)	US
62/467,063	03 March 2017 (03.03.2017)	US
62/490,523	26 April 2017 (26.04.2017)	US
62/541,571	04 August 2017 (04.08.2017)	US

(71) Applicant: **MODERNATX, INC.** [US/US]; 200 Technology Square, Cambridge, MA 02139 (US).

(72) Inventors: **HUANG, Eric Yi-chun**; 90 Wareham Street, Unit 302, Boston, MA 02118 (US). **TSE, Sze-Wah**; 200 Technology Square, Cambridge, MA 02139 (US). **IACOV-ELLI, Jared**; 20 Rich Street #2, Waltham, MA 02451 (US). **MCKINNEY, Kristine**; 73 Highland Ave, Cambridge, MA 02139 (US). **VALIANTE, Nicholas**; 70 Norfolk Street, Cambridge, MA 02139 (US).

(74) Agent: **MANDRAGOURAS, Amy, E.** et al.; Nelson Mullins Riley & Scarborough LLP, One Post Office Square, Boston, MA 02109-2127 (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, IR, IS, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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).

(54) Title: IMMUNOMODULATORY THERAPEUTIC MRNA COMPOSITIONS ENCODING ACTIVATING ONCOGENE MUTATION PEPTIDES

(57) Abstract: The disclosure features immunomodulatory therapeutic compositions of an mRNA encoding an activating oncogene mutation peptide and an mRNA encoding a polypeptide that enhances immune responses to the activating oncogene mutation peptide, for example an mRNA encoding an immune potentiator. The disclosure also features methods of using the same, for example, to stimulate anti-cancer immune responses.

WO 2018/144775 A1