

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 November 2024 (28.11.2024)



(10) International Publication Number
WO 2024/240750 A1

(51) International Patent Classification:

C12N 15/115 (2010.01) A61P 25/28 (2006.01)
A61K 31/7088 (2006.01) A61P 31/00 (2006.01)
A61P 9/10 (2006.01) A61P 35/00 (2006.01)
A61P 21/00 (2006.01) C07H 21/00 (2006.01)

(21) International Application Number:

PCT/EP2024/063928

(22) International Filing Date:

21 May 2024 (21.05.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

23382476.2 22 May 2023 (22.05.2023) EP

(71) Applicant: APTATARGETS, S.L. [ES/ES]; Avda Cardenal Herrera Oria, Num. 298 Planta 1, Puerta 4, 28035 MADRID (ES).

(72) Inventors: PIÑEIRO DEL RIO, David; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES). ERITJA CASADELLÀ, Ramón; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES). HERNÁNDEZ JIMÉNEZ, Macarena; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES). AVIÑÓ ANDRÉS, Ana María; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES). SEGARRA DE LA PEÑA, David; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES). ZARABOZO LEAL, María Eugenia; Avda Cardenal Herrera Oria, Num. 298, Planta 1, Puerta 4, 28035 MADRID (ES).

(74) Agent: ZBM PATENTS - ZEA, BARLOCCI & MARK-VARSEN; Rambla de Catalunya, 123, 08008 Barcelona (ES).

(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, 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).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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))
— with sequence listing part of description (Rule 5.2(a))

(54) Title: NEW TLR-4 ANTAGONIST APTAMERS

(57) Abstract: It is provided an aptamer comprising the polynucleotide sequence consisting of SEQ ID NO: 7, a fragment thereof or a functionally equivalent variant thereof, comprising at least chemically modified nucleotides, with a length between 40 and 100 nucleotides and having the capability of specifically binding to TLR-4 and inhibiting TLR-4 activation. The chemically modified aptamers which derive from SEQ ID NO: 7 or its variants, have increased stability and a positive effect in breast cancer and inflammatory autoimmune neuropathy disorder such as Guillain-Barré syndrome.

WO 2024/240750 A1