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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 April 2016 (07.04.2016)

WIPO | PCT

(10) International Publication Number
WO 2016/050822 A2

(51) International Patent Classification:
C07K 16/18 (2006.01)

(21) International Application Number:
PCT/EP2015/072516

(22) International Filing Date:
30 September 2015 (30.09.2015)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
14187180.6 30 September 2014 (30.09.2014) EP
15180310.3 7 August 2015 (07.08.2015) EP

(71) Applicant: **NEURIMMUNE HOLDING AG** [CH/CH]; Wagistrasse 13, CH-8952 Schlieren (CH).

(72) Inventors: **MONTRASIO, Fabio**; Vogelneststr. 7, CH-8834 Schindellegi (CH). **GRIMM, Jan**; Bürglistrasse 16, CH-8600 Dübendorf (CH).

(74) Agent: **STEINECKE, Peter**; P.O. Box 11 40, 52412 Jülich (DE).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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).

Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

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

WO 2016/050822 A2

(54) Title: HUMAN-DERIVED ANTI-DIPEPTIDE REPEATS (DPRS) ANTIBODY

(57) Abstract: Provided are novel human-derived dipeptide repeat (DPR) specific antibodies as well as synthetic variants and bio-technological derivatives thereof, preferably capable of binding C9ORF72 DPRs, as well as methods related thereto. Assays, kits, and solid supports related to antibodies specific for DPRs and DPR proteins such C9ORF72 DPRs are also disclosed. The antibody of the present invention can be used in pharmaceutical and diagnostic compositions for DPR protein-targeted immunotherapy and diagnostics.