



(51) International Patent Classification:

C07K 16/28 (2006.01) *A61K 39/00* (2006.01)
A61K 39/395 (2006.01)

(21) International Application Number:

PCT/EP2018/065107

(22) International Filing Date:

08 June 2018 (08.06.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17175122.5 09 June 2017 (09.06.2017) EP

(71) Applicant: **BOEHRINGER INGELHEIM INTERNATIONAL GMBH** [DE/DE]; Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE).

(72) **Inventors:** **HERRMANN, Rolf**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **BAKKER, Remko, Alexander**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **BANDHOLTZ, Sebastian**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **BENZ, Peter, Michael**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **DZIEGELEWSKI, Michael**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900 Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US). **FLORIN, Lore**; 213 Avalon Lake Road, Danbury, CT 06810 (US). **KENNY, Cynthia, Hess**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900 Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US). **LOW, Sarah**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900 Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US). **ROSENBROCK, Holger**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **SINGH, Sanjaya**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900 Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US). **STAHL, Heiko, Friedrich**; Boehringer Ingelheim International GmbH, Corporate Patents, Binger Strasse 173, 55216 INGELHEIM AM RHEIN (DE). **VENKATARAMANI, Sathyadevi**; 597 Fawnview Cir, Blue Bell, PA 19422 (US). **VOYNOV, Vladimir**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900 Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US). **XIAO, Haiguang**; c/o VP, IP, Legal, Boehringer Ingelheim USA Corp., 900

Ridgebury Road, P.O. Box 368, Ridgefield, CT 06877-0368 (US).

(74) **Agent:** **SIMON ET AL., Elke, Anna Maria** et al.; Binger Strasse 173, 55216 INGELHEIM AM RHEIN (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, 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).

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

(54) **Title:** ANTI-TRKB ANTIBODIES

(57) **Abstract:** The present invention relates to novel agonistic anti-TrkB antibodies and therapeutic and diagnostic methods and compositions for using the same.

