



(51) International Patent Classification:

C07D 487/04 (2006.01) *A61P 35/00* (2006.01)
C07D 487/12 (2006.01) *A61P 37/00* (2006.01)
A61K 31/5517 (2006.01)

(21) International Application Number:

PCT/CN2014/075943

(22) International Filing Date:

22 April 2014 (22.04.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/CN2013/074728 25 April 2013 (25.04.2013) CN

(71) Applicant (for all designated States except LR): **BEI-GENE, LTD.** [GB/GB]; c/o Maurant Ozannes Corporate Services (Cayman) Limited, 94 Solaris Avenue, PO Box 1348, George Town, Camana Bay, Grand Cayman, KY1-1108 (KY).

(72) Inventor; and

(71) Applicant (for LR only): **GUO, Yunhang** [CN/CN]; No. 30 Science Park Road, Zhong-Guan-Cun Life Science Park, Changping, Beijing 102206 (CN).

(72) Inventor: **WANG, Zhiwei**; No. 30 Science Park Road, Zhong-Guan-Cun Life Science Park, Changping, Beijing 102206 (CN).

(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, LT, 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, 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:

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

(54) Title: FUSED HETEROCYCLIC COMPOUNDS AS PROTEIN KINASE INHIBITORS

(57) Abstract: The invention is fused heterocyclic compounds of formula (I), and salts thereof, compositions thereof, and methods of use therefor. In particular, disclosed herein are certain fused heterocyclic compounds that can be useful for inhibiting protein kinase, including Bruton's tyrosine kinase (Btk), and for treating disorders mediated thereby.

