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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number
WO 2005/066176 A1

(51) International Patent Classification[7]: C07D 487/04, 519/00, A61K 31/53, A61P 35/00

(21) International Application Number:
PCT/US2004/043169

(22) International Filing Date:
23 December 2004 (23.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/533,335 29 December 2003 (29.12.2003) US

(71) Applicant *(for all designated States except US)*: **BRISTOL-MYERS SQUIBB COMPANY** [US/US]; P.O. Box 4000, Route 206 and ProvinceLine Road, Princeton, New Jersey 08543-4000 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **FINK, Brian, E.** [US/US]; 30 Windsor Drive, Princeton Junction, New Jersey 08550 (US). **GAVAI, Ashvinikumar, V.** [US/US]; 12 Stonewall Drive, Princeton Junction, New Jersey 08550 (US). **VITE, Gregory, D.** [US/US]; 28 Continental Lane, Titusville, New Jersey 08560 (US). **CHEN, Ping** [US/US]; 21 Derby Chase Court, Belle Mead, New Jersey 08502 (US). **MASTALERZ, Harold** [US/US]; 70 Robin Lane, Guilford, Connecticut 06437 (US). **NORRIS, Derek, J.** [CA/US]; 52 Manley Road, Pennington, New Jersey 08534 (US). **TOKARSKI, John, S.** [US/US]; 11 Walker Drive, Princeton, New Jersey 08540 (US). **ZHAO, Yufen** [CN/US]; 83 Chicory Lane, Pennington, NJ 08534 (US). **HAN, Wen-Ching** [US/US]; 2062 East Wellington Road, Newtown, Pennsylvania 18940 (US).

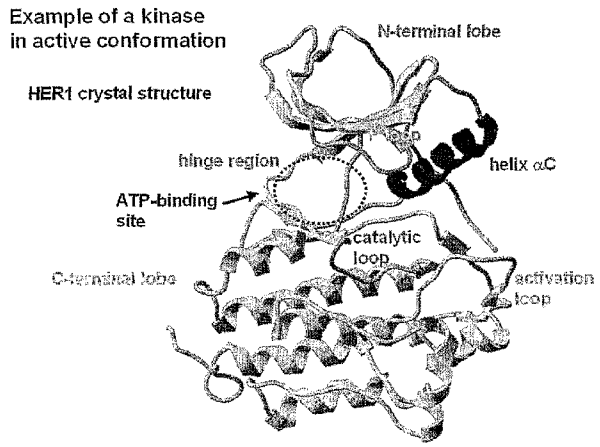
(74) Agents: **KORSEN, Elliott** et al.; Bristol-Myers Squibb Company, P.O. Box 4000, Princeton, NJ 08543-4000 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

[Continued on next page]

(54) Title: PYRROLOTRIAZINE COMPOUNDS AS KINASE INHIBITORS

X-ray structure of HER1, color-coded by key elements of a typical kinase.



(57) Abstract: The present invention provides compounds of formula (I); and pharmaceutically acceptable salts thereof. The formula (I) compounds inhibit tyrosine kinase activity of growth factor receptors such as HER1, HER2 and HER4 thereby making them useful as antiproliferative agents. The formula (I) compounds are also useful for the treatment of other diseases associated with signal transduction pathways operating through growth factor receptors.

WO 2005/066176 A1

MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.