

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 May 2007 (18.05.2007)

PCT

(10) International Publication Number
WO 2007/056221 A3

(51) International Patent Classification:
A61K 31/505 (2006.01) **C07D 239/02** (2006.01)

(21) International Application Number:
PCT/US2006/043096

(22) International Filing Date:
3 November 2006 (03.11.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/732,951 3 November 2005 (03.11.2005) US
60/733,557 4 November 2005 (04.11.2005) US

(71) Applicant (for all designated States except US): **VERTEX PHARMACEUTICALS INCORPORATED** [US/US];
130 Waverly Street, Cambridge, MA 02139-4242 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BINCH, Hayley** [GB/US]; Vertex Pharmaceuticals Incorporated, 130 Waverly Street, Cambridge, MA 02139 (US). **MOR-TIMORE, Michael** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **DAVIS, Chris** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **BOYALL, Dean** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 5AU (GB). **EVERITT, Simon** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **ROBINSON, Daniel** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **RAMAYA, Sharn** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **FRAYSSE, Damien** [FR/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **STUDLEY, John** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **MILIER, Andrew** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park,

Abingdon, Oxfordshire OX14 4RY (GB). **O'DONNELL, Michael** [IE/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **RUTHERFORD, Alistair** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **PINDER, Joanne** [GB/GB]; Vertex Pharmaceuticals (Europe) Limited, 88 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB).

(74) Agent: **WU, Melody, H.**; Covington & Burling LLP, 1201 Pennsylvania Avenue, N.W., Washington, DC 20004-2401 (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, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, 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, LV, 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

(88) Date of publication of the international search report:
6 December 2007

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.

(54) Title: AMINOPYRIMIDINES USEFUL AS KINASE INHIBITORS

(57) Abstract: The present invention relates to compounds useful as inhibitors of protein kinases. The invention also provides pharmaceutically acceptable compositions comprising those compounds and methods of using the compounds and compositions in the treatment of various disease, conditions, and disorders. The invention also provides processes for preparing compounds of the invention.



WO 2007/056221 A3