

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 May 2008 (02.05.2008)

PCT

(10) International Publication Number
WO 2008/050096 A1

(51) International Patent Classification:

C07D 475/00 (2006.01) A61P 35/00 (2006.01)
A61K 31/519 (2006.01)

Chroma Therapeutics Limited, 92 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **PHILPS, Oliver, James** [GB/GB]; Chroma Therapeutics Limited, 92 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB).

(21) International Application Number:

PCT/GB2007/003998

(74) Agent: **WALLS, Alan, James**; P.O. Box 223, Tadworth, Surrey KT20 5YF (GB).

(22) International Filing Date: 19 October 2007 (19.10.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

0621205.4 25 October 2006 (25.10.2006) GB
0715614.4 10 August 2007 (10.08.2007) GB

(71) Applicant (for all designated States except US): **CHROMA THERAPEUTICS LTD.** [GB/GB]; 93 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MOFFAT, David, Festus, Charles** [GB/GB]; Chroma Therapeutics Ltd., 93 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **PATEL, Sanjay, Ratilal** [GB/GB]; Chroma Therapeutic Ltd., 93 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **DAVIES, Stephen, John** [GB/GB]; Chroma Therapeutics Ltd, 93 Milton Park, Abingdon, Oxfordshire OX14 4RY (GB). **BAKER, Kenneth, William, John** [GB/GB];

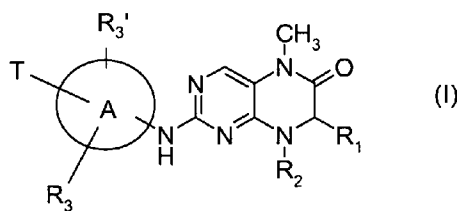
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, 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, 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, MT, 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

(54) Title: PTERIDINE DERIVATIVES AS POLO-LIKE KINASE INHIBITORS USEFUL IN THE TREATMENT OF CANCER



(57) Abstract: Compound of formula (I) are inhibitors of Polo-like kinases (PLKs), and are useful in treatment of cell proliferative diseases: wherein R_1 and R_2 are hydrogen, or an optionally substituted (C_1 - C_6)alkyl, (C_2 - C_6)alkenyl, (C_2 - C_6)alkynyl or (C_3 - C_6)cycloalkyl group; R_3 and R_3' are independently selected from hydrogen, -CN, hydroxyl, halogen, optionally substituted (C_1 - C_6) alkyl, (C_2 - C_6)alkenyl, (C_2 - C_6)alkynyl or (C_3 - C_6)cycloalkyl, -NR₅R₆ or C_1 - C_4 alkoxy, wherein R_5 and R_6 are independently hydrogen or optionally substituted (C_1 - C_6)alkyl; ring A is an optionally substituted mono- or bi-cyclic carbocyclic or heterocyclic ring or a ring system having up to 12 ring atoms; T is a radical of formula $R-L^1-Y^1$ - wherein R is an alpha amino acid or alpha amino acid ester motif, linked to ring A by linker $R-L^1-Y^1$ - as defined in the claims.