



(43) International Publication Date
18 September 2014 (18.09.2014)

(51) International Patent Classification:

<i>C07D 215/227</i> (2006.01)	<i>C07D 401/12</i> (2006.01)
<i>C07D 215/44</i> (2006.01)	<i>C07D 401/14</i> (2006.01)
<i>C07D 215/46</i> (2006.01)	<i>C07D 405/04</i> (2006.01)
<i>C07D 215/48</i> (2006.01)	<i>C07D 405/14</i> (2006.01)
<i>A61K 31/4706</i> (2006.01)	<i>C07D 409/12</i> (2006.01)
<i>A61K 31/4709</i> (2006.01)	<i>C07D 409/14</i> (2006.01)
<i>A61K 31/4375</i> (2006.01)	<i>C07D 413/04</i> (2006.01)
<i>C07D 401/04</i> (2006.01)	

(21) International Application Number:

PCT/EP2014/054795

(22) International Filing Date:

12 March 2014 (12.03.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/781,583	14 March 2013 (14.03.2013)	US
61/882,798	26 September 2013 (26.09.2013)	US

(71) Applicant: GLAXOSMITHKLINE INTELLECTUAL PROPERTY (NO.2) LIMITED [GB/GB]; 980 Great West Road, Brentford Middlesex TW8 9GS (GB).

(72) **Inventors: AMANS, Dominique**; GlaxoSmithKline, 980 Great West Road, Brentford Middlesex TW8 9GS (GB). **ATKINSON, Stephen John**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **HARRISON, Lee Andrew**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **HIRST, David Jonathan**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **LAW, Robert Peter**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **LINDON, Matthew**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **PRESTON, Alexander**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB). **SEAL, Jonathan Thomas**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hert-

fordshire SG1 2NY (GB). **WELLAWAY, Christopher Roland**; GlaxoSmithKline, Gunnels Wood Road, Stevenage Hertfordshire SG1 2NY (GB).

(74) **Agent:** **SHORE, Andrew, David;** GlaxoSmithKline, Global Patents (CN925.1), 980 Great West Road, Brentford Middlesex TW8 9GS (GB).

(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).

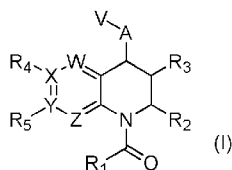
Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

Published:

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

(54) Title: 2,3-DISUBSTITUTED 1-ACYL-4-AMINO-1,2,3,4-TETRAHYDROQUINOLINE DERIVATIVES AND THEIR USE AS BROMODOMAIN INHIBITORS



(57) Abstract: The present invention relates to novel compounds of formula (I), wherein R₁ is C₁₋₄alkyl; R₂ is C₁₋₄alkyl, C₃₋₇cycloalkyl, -CH₂CF₃, -CH₂OCH₃ or heterocyclyl; R₃ is C₁₋₄alkyl, -CH₂F, -CH₂OH or -CH₂O(O)CH₃; R₄ when present is as defined in claim 1; R₅ when present is H, halo, hydroxy or C₁₋₆alkoxy; A is -NH-, -O-, -S-, -SO-, -SO₂-, -N(C₁₋₄alkyl)- or -NC(O)(CH₃)-; V is phenyl, heteroaromatic or pyridone any of which may be optionally substituted by 1, 2 or 3 substituents; W is CH or N; X is C or N; Y is C or N; and Z is CH or N; subject to the proviso that no more than 2 of W, X, Y and Z are N, pharmaceutical compositions containing such compounds and to their use as bromodomain inhibitors.