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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 May 2014 (08.05.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/071231 A1

(51) International Patent Classification:
A61K 31/505 (2006.01) *A61P 35/00* (2006.01)
A61K 38/20 (2006.01)

(21) International Application Number:
PCT/US2013/068132

(22) International Filing Date:
1 November 2013 (01.11.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/722,107 2 November 2012 (02.11.2012) US
61/785,868 14 March 2013 (14.03.2013) US

(71) Applicant: **PHARMACYCLICS, INC.** [US/US]; 995 East Arques Avenue, Sunnyvale, CA 94085 (US).

(72) Inventors; and
(71) Applicants : **BUGGY, Joseph, J.** [US/US]; 1229 Marilyn Drive, Mountain View, CA 94040 (US). **MODY, Tarak** [US/US]; 955 La Mesa Terrace #e, Sunnyvale, CA 94086 (US). **LOVE, Richard, B.** [US/US]; 935 Irving Street, Montara, CA 94037 (US). **BYRD, John, C.** [US/US]; 320 W 10th Avenue, Columbus, OH 43210 (US). **CHANG, Betty** [US/US]; 10375 Lindsay Avenue, Cupertino, CA 95014 (US).

(74) Agent: **BEST-MARTIN, Jennifer, L.**; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304 (US).

[Continued on next page]

(54) Title: TEC FAMILY KINASE INHIBITOR ADJUVANT THERAPY

(57) Abstract: Described herein are methods and compositions comprising a covalent TEC family kinase inhibitor for use in adjuvant therapy, including adjuvant cancer therapy, vaccination and treatment of immune disorders and pathogenic infections.

FIGURE 1A

a

	Tyrosine Kinase	Ibrutinib IC50(nM)
Irreversible Inhibition (Contain Cys-481)	ITK	2.2
	BTK	0.1
	Bmx	0.7
	Tec	0.4
	EGFR	4.5
	JAK3	3.8
	HER2	1.4
	HER4	<0.5
	Blk	<0.5
Reversible Inhibition	Lck	0.9
	C-src	148.5
	Lyn	0.9
	Yes	<0.5
	Csk	4.2
	VEGFR2	241

WO 2014/071231 A1

(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))*