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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
4 December 2014 (04.12.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/194254 A1

(51) International Patent Classification:
A61K 31/4725 (2006.01)

(21) International Application Number:
PCT/US2014/040337

(22) International Filing Date:
30 May 2014 (30.05.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/829,168	30 May 2013 (30.05.2013)	US
61/836,088	17 June 2013 (17.06.2013)	US
61/863,365	7 August 2013 (07.08.2013)	US
61/888,454	8 October 2013 (08.10.2013)	US
PCT/US2013/067929	1 November 2013 (01.11.2013)	US
61/991,414	9 May 2014 (09.05.2014)	US

(71) Applicant: **INFINITY PHARMACEUTICALS, INC.** [US/US]; 780 Memorial Drive, Cambridge, MA 02139 (US).

(72) Inventors: **STERN, Howard, M.**; 50 Evelyn Road, Waban, MA 02468 (US). **KUTOK, Jeffery, L.**; 9 Oak Hill Road, Natick, MA 01760 (US).

(74) Agent: **GOTTSELIG, Julie, M.**; Lando & Anastasi LLP, Riverfront Office Park, One Main Street, Suite 1100, Cambridge, MA 02142 (US).

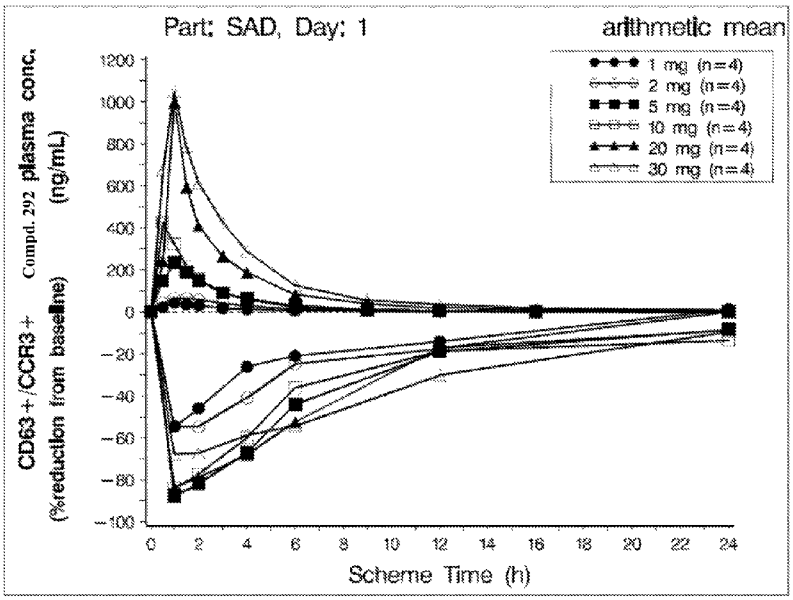
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP,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

[Continued on next page]

(54) Title: TREATMENT OF CANCERS USING PI3 KINASE ISOFORM MODULATORS

FIG. 1



SAD part, single dose QD

(57) Abstract: Provided herein are methods, kits, and pharmaceutical compositions that include a PI3 kinase inhibitor for treating cancers or hematologic disorders. Provided herein are methods, compositions, and kits for treating or preventing cancers or diseases, such as hematologic malignancies, which have a high expression level of one or more isoform(s) of PI3K (e.g., PBK-8 and/or PI3K-y). In one embodiment, the methods, compositions, and kits provided herein relate to administering an isoform-selective PI3K modulator.

WO 2014/194254 A1

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))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*