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

(19) World Intellectual Property Organization
International Bureau

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

WIPO | PCT

(10) International Publication Number
WO 2014/145025 A3

(51) International Patent Classification:
A61K 31/4375 (2006.01)

(21) International Application Number:
PCT/US2014/029661

(22) International Filing Date:
14 March 2014 (14.03.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/792,812 15 March 2013 (15.03.2013) US

(71) Applicant: **DECIPHERA PHARMACEUTICALS, LLC** [US/US]; 643 Massachusetts, Suite 200, Lawrence, Kansas 66044 (US).

(72) Inventors; and
(71) Applicants : **AHN, YuMi** [US/US]; 4157 Blackjack Oak Drive, Lawrence, Kansas 66047 (US). **VOGETI, Lakshminarayana** [US/US]; 170 Summer Street, Apt. # 5, Arlington, Massachusetts 02474 (US). **CALDWELL, Timothy Malcolm** [US/US]; 10489 Greenway Drive, Fishers, Indiana 46037 (US).

(72) Inventors: **KAUFMAN, Michael D.**; 4708 Muirfield Drive, Lawrence, Kansas 66047 (US). **FLYNN, Daniel L.**; 4165 Blackjack Oak Drive, Lawrence, Kansas 66047 (US).

(74) Agents: **FARMER, J. Dean** et al.; Cooley Llp, 1299 Pennsylvania Avenue, N.W., Suite 700, Washington, District of Columbia 20004-2400 (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, 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))*

Published:

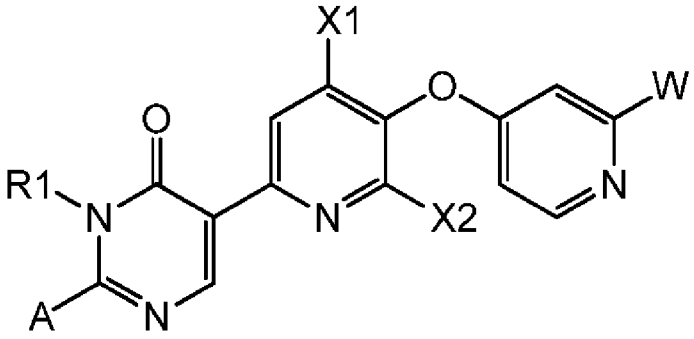
— *with international search report (Art. 21(3))*

— *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))*

— *with sequence listing part of description (Rule 5.2(a))*

(88) Date of publication of the international search report:
8 January 2015

(54) Title: 2-AMINOPYRIMIDIN-6-ONES AND ANALOGS EXHIBITING ANTI-CANCER AND ANTI-PROLIFERATIVE ACTIVITIES



Formula I

(57) Abstract: Described are compounds of Formula I which find utility in the treatment of cancer, autoimmune diseases and metabolic bone disorders through inhibition of c-FMS (CSF-IR), c-KIT, and/or PDGFR kinases. These compounds also find utility in the treatment of other mammalian diseases mediated by c- FMS, c-KIT, or PDGFR kinases.

WO 2014/145025 A3