



(51) International Patent Classification:
G01N 33/574 (2006.01)

(21) International Application Number:
PCT/US2014/068795

(22) International Filing Date:
5 December 2014 (05.12.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/913,003 6 December 2013 (06.12.2013) US
61/947,963 4 March 2014 (04.03.2014) US
61/990,621 8 May 2014 (08.05.2014) US
62/061,050 7 October 2014 (07.10.2014) US
62/064,413 15 October 2014 (15.10.2014) US
62/077,835 10 November 2014 (10.11.2014) US
62/087,111 3 December 2014 (03.12.2014) US

(71) Applicant: CELGENE CORPORATION [US/US]; 86
Morris Avenue, Summit, NJ 07901 (US).

(72) Inventors: TROTTER, Matthew William, Burnell; Calle
Alcazar 43, E-41807 Espartinas, Sevilla (ES). HAGNER,
Patrick; 22 Oakwood Trail, Sparta, NJ 07871 (US).
HAVENS, Courtney, G.; 11 Catherine Lane, Morristown,
NJ 07960 (US). CHOPRA, Rajesh; 54 Eggers Court,
Summit, NJ 07901 (US). GANDHI, Anita; 37 Stirling
Road, Bernardsville, NJ 07924 (US). KLIPPEL, Anke; 21
Moss Avenue, Westfield, NJ 07090 (US). WANG, Maria,
Yinglin; 7285 Calabria Ct., #20, San Diego, CA 92122
(US). BREIDER, Mike; 1833 Somerset Avenue, Cardiff-
by-the-sea, CA 92007 (US). COUTO, Suzana, Sturlini;
5816 Cactus Way, La Jolla, CA 92037 (US). REN, Yan;
6310 Sagebrush Bend Way, San Diego, CA 92130 (US).
HOLLENBACH, Paul; 20793 Glenwood Drive, Castro
Valley, CA 94552 (US). MACBETH, Kyle; 1356 Steven-
son Street, San Francisco, CA 94103 (US).

(74) Agents: WEISSER, Tamera et al.; Jones Day, 222 East
41st Street, New York, NY 10017-6702 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

[Continued on next page]

(54) Title: METHODS FOR DETERMINING DRUG EFFICACY FOR THE TREATMENT OF DIFFUSE LARGE B-CELL
LYMPHOMA, MULTIPLE MYELOMA, AND MYELOID CANCERS

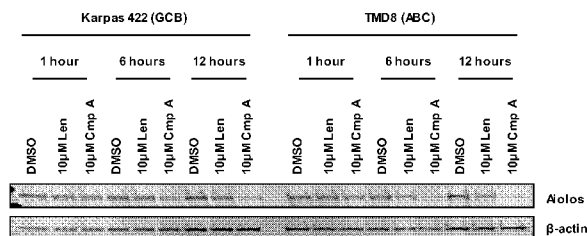


Figure 1A

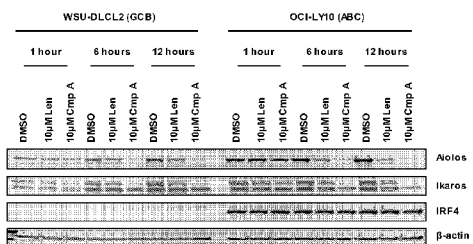


Figure 1B

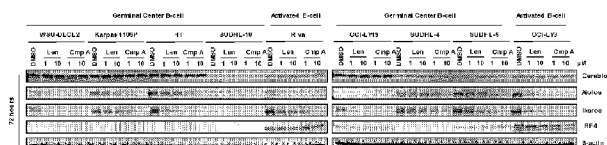


Figure 1C

(57) Abstract: Provided herein, in some embodiments, are methods of using certain cereblon- associated proteins, such as Aiolos, Ikaros, interferon (IFN), and IFN pathway proteins, casein kinase 1, alpha 1 (CSNK1A1), and ZFP9, as biomarkers for use in predicting and monitoring clinical sensitivity and therapeutic response to certain compounds in patients having various diseases and disorders, such as cancers (e.g., diffuse large B-cell lymphoma (DLBCL), multiple myeloma (MM), myelodysplasia syndromes (MDS) and acute myeloid leukemia (AML)) and IFN-associated disorders. Also provided herein, in certain embodiments, are methods of determining the efficacy of an immunomodulatory compound.



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, 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.

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, 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:

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,