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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 June 2009 (11.06.2009)

PCT

(10) International Publication Number
WO 2009/070844 A1

(51) International Patent Classification:
A61K 39/395 (2006.01) *C07K 16/30* (2006.01)
A61P 35/02 (2006.01)

(21) International Application Number:
PCT/AU2008/001797

(22) International Filing Date:
4 December 2008 (04.12.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/996,819 6 December 2007 (06.12.2007) US

(71) Applicants *(for all designated States except US)*: **CSL LIMITED** [AU/AU]; 45 Poplar Road, Parkville, Victoria 3052 (AU). **UNIVERSITY HEALTH NETWORK** [CA/CA]; 190 Elizabeth Street, R. Fraser Elliott Building, Room 1S-417, Toronto, Ontario M5G2C4 (CA).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **DICK, John Edgar** [CA/CA]; 57 MacLean Avenue, Toronto, Ontario M4E2Z8 (CA). **JIN, Liqing** [CA/CA]; 2360 Dundas Street West, Apt # 1609, Toronto, Ontario M6P4B2 (CA). **VAIRO, Gino Luigi** [AU/AU]; 23 Tanner Grove, Northcote, Victoria 3070 (AU). **GEARING, David, Paul** [AU/AU]; 83 Broadway, Camberwell, Victoria 3124 (AU). **BUSFIELD, Samantha, Jane** [AU/AU]; 4/185 Brunswick Road, Brunswick, Victoria 3056 (AU).

(74) Agents: **SLATTERY, John Michael** et al.; Davies Collison Cave, 1 Nicholson Street, Melbourne, Victoria 3000 (AU).

(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, BR, BW, BY, BZ, CA, CH, 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, IS, JP, KE, KG, KM, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

WO 2009/070844 A1

(54) Title: METHOD OF INHIBITION OF LEUKEMIC STEM CELLS

(57) Abstract: A method for inhibition of leukemic stem cells expressing IL-3Rα; (CD 123), comprises contacting the cells with an antigen binding molecule comprising a Fc region or a modified Fc region having enhanced Fc effector function, wherein the antigen binding molecule binds selectively to IL-3Rα (CD123). The invention includes the treatment of a hematologic cancer condition in a patient by administration to the patient of an effective amount of the antigen binding molecule.