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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/016893 A3

(51) International Patent Classification[7]: C07D 413/14, 413/12, 417/12, A61K 31/505, A61P 37/00

(21) International Application Number: PCT/US2004/024716

(22) International Filing Date: 30 July 2004 (30.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/491,641	30 July 2003 (30.07.2003)	US
60/531,598	19 December 2003 (19.12.2003)	US
60/572,246	18 May 2004 (18.05.2004)	US

(71) Applicant *(for all designated States except US)*: **RIGEL PHARMACEUTICALS, INC.** [US/US]; 1180 Veterans Boulevard, South San Francisco, CA 94080 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **RAJINDER, Singh** [GB/US]; 832 Hillman Avenue, Belmont, CA 94002 (US). **ANKUSH, Argade** [IN/US]; 639-1 Catamaran Street, Foster City, CA 94404 (US). **LI, Hui** [CN/US]; 1550 Frontera Way, Apt. 117, Millbrae, CA 94030-2803 (US). **BHAMIDIPATI, Somasekhar** [IN/US]; 888 Foster City Boulevard, #Q2, Foster City, CA 94404 (US). **CARROLL, David** [US/US]; 87 Dolores Street, Apt. 105, San Francisco, CA 94103 (US). **SYLVAIN, Catherine** [FR/US]; 1425 Bellevue Avenue, #12, Burlingame, CA 94010 (US). **CLOUGH, Jeffrey** [US/US]; 3520 Bay Road, Redwood City, CA 94063 (US). **KEIM, Holger** [DE/US]; 25 Buckthorn Way, Menlo Park, CA 94025 (US).

(74) Agents: **ROTHENBERGER, Scott, D.** et al.; Intellectual Property Department, Suite 1500, 50 South Sixth Street, Minneapolis, MN 55402-1498 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IT, LU, MC, NL, 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*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report: 9 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: 2,4-PYRIMIDINEDIAMINE COMPOUNDS FOR USE IN THE TREATMENT OR PREVENTION OF AUTOIMMUNE DISEASES

(57) Abstract: The present invention provides methods of treating or preventing autoimmune diseases with 2,4-pyrimidinediamine compounds, as well as methods of treating, preventing or ameliorating symptoms associated with such diseases. Specific examples of autoimmune diseases that can be treated or prevented with the compounds include rheumatoid arthritis and/or its associated symptoms, systemic lups erythematosis and/or its associated symptoms and multiple sclerosis and/or its associated symptoms.

WO 2005/016893 A3