

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 December 2004 (02.12.2004)

PCT

(10) International Publication Number
WO 2004/104015 A2

(51) International Patent Classification⁷: **C07F 9/00**

(74) Agent: LIVNAT, Shmuel; Venable LLP, 575 7th Street, NW, Washington, DC 20004-1601 (US).

(21) International Application Number:
PCT/US2004/015876

(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.

(22) International Filing Date: 20 May 2004 (20.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/471,716 20 May 2003 (20.05.2003) US

(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).

(71) Applicants and

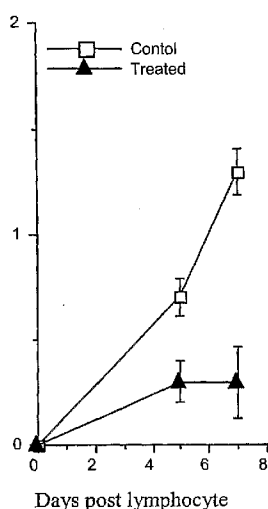
(72) Inventors: COWDEN, William [US/AU]; 56Urambi Village, Crozier Circuit, Kambah, ACT 2902 (AU). BARTELL, Gavin [AU/AU]; 58 Jhon Russell Circuit, Conder, ACT 2906 (AU). ESCHLER, Bart [AU/AU]; 184 Chralba Cress, Giralang, ACT 2617 (AU). MARCH, Darren [AU/AU]; 31 Galbraith CL, Banks, ACT 2906 (AU). ROBERTSON, Alan [AU/AU]; 12 Cherry Street, Warrawee, NSW 2074 (AU).

Declaration under Rule 4.17:

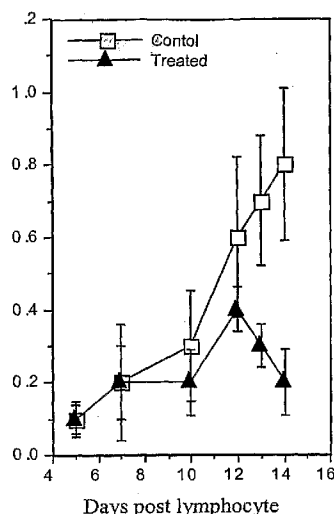
— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: NOVEL PHOSPHOTETRAHYDROPYRANS AND METHODS



1A



1B

(57) Abstract: Novel phosphotetrahydropyran compounds that mimic mannose-6-phosphate but that are more resistant to phosphatases and mannosidases, and pharmaceutical compositions thereof, are disclosed. These compounds and compositions inhibit T lymphocyte migration from blood to tissues or to other extravascular sites. By inhibiting such migration, these compounds are useful for treating diseases or disorders that are mediated at least in part by such T lymphocyte migration. Such diseases and disorders include rheumatoid arthritis, multiple sclerosis, acute disseminated encephalomyelitis, psoriasis, inflammatory bowel disease, T cell-mediated dermatitis, stromal keratitis, uveitis, thyroiditis, sialitis and type I diabetes.

WO 2004/104015 A2



Published:

— without international search report and to be republished
upon receipt of that report

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.