

(19) World Intellectual Property Organization
International Bureau



G00002

(43) International Publication Date
14 March 2002 (14.03.2002)

PCT

(10) International Publication Number
WO 02/20495 A2

(51) International Patent Classification⁷: **C07D 239/42**,
401/12, 405/12, 403/12, 405/14, 413/14, 401/14, 213/85,
213/75, 213/74, 213/80, A61K 31/505, A61P 25/28

(US) **DESAI, Manoj**, 1975 Mohawk Drive, Pleasant Hill, CA 94523 (US). **LEVINE, Barry, H.**, 1142 Brown Avenue, Lafayette, CA 94549 (US).

(21) International Application Number: PCT/US01/42081

(74) Agent: **SHELTON, Dennis, K.**, Christensen O'Connor Johnson & Kindness PLLC, Suite 2800, 1420 Fifth Avenue, Seattle, WA 98101 (US).

(22) International Filing Date:

6 September 2001 (06.09.2001)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/230,480 6 September 2000 (06.09.2000) US

(71) Applicant: **CHIRON CORPORATION** [US/US], 4560 Horton Street, Emeryville, CA 94608-2916 (US).

(72) Inventors: **NUSS, John, M.**, 16 Woodranch Circle, Danville, CA 94506 (US). **HARRISON, Stephen, D.**, 1369 Francisco Street, Berkeley, CA 94702 (US). **RING, David, B.**, 2375 Cowper Street, Palo Alto, CA 94301 (US). **BOYCE, Rustum, S.**, 1818 Broadway #206, San Francisco, CA 94109 (US). **JOHNSON, Kirk**, 147 Brookfield Drive, Moraga, CA 94556 (US). **PFISTER, Keith, B.**, 221 Promontory Terrace, San Ramon, CA 94583 (US). **RAMURTHY, Savithri**, 2961 Santos Lane, N° 301, Walnut Creek, CA 94596 (US). **SEELY, Lynn**, 467 Chatham Road, Burlingame, CA 94010 (US). **WAGMAN, Allan, S.**, 660 Canyon Oaks Drive Apt E, Oakland, CA 94605

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, 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, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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

162162

WO 02/20495 A2

(54) Title: INHIBITORS OF GLYCOGEN SYNTHASE KINASE 3

(57) Abstract: New pyrimidine or pyridine based compounds, compositions and methods of inhibiting the activity of glycogen synthase kinase (GSK3) *in vitro* and of treatment of GSK3 mediated disorders *in vivo* are provided. The methods, compounds and compositions of the invention may be employed alone, or in combination with other pharmacologically active agents in the treatment of disorders mediated by GSK3 activity, such as diabetes, Alzheimer's disease and other neurodegenerative disorders, obesity, atherosclerotic cardiovascular disease, essential hypertension, polycystic ovary syndrome, syndrome X, ischemia, traumatic brain injury, bipolar disorder, immunodeficiency or cancer