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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 June 2003 (05.06.2003)

PCT

(10) International Publication Number
WO 03/045371 A1

(51) International Patent Classification[7]: A61K 31/195, 31/4406, A61P 19/10, 19/00

(21) International Application Number: PCT/IB02/04368

(22) International Filing Date: 21 October 2002 (21.10.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/335,156 30 November 2001 (30.11.2001) US

(71) Applicant *(for all designated States except US)*: **PFIZER PRODUCTS INC.** [US/US]; Eastern Point Road, Groton, CT 06340 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **DUMONT, Francis** [US/US]; Pfizer Global Research & Development, Eastern Point Road, Groton, CT 06340 (US). **HONG, Jinyang** [CN/US]; Pfizer Global Research and Development, Eastern Point Road, Groton, CT 06340 (US). **KIM, Yesook** [US/US]; Pfizer Global Research and Development, Eastern Point Road, Groton, CT 06340 (US). **KORSMEYER, Richard, Wilker** [US/US]; Pfizer Global Research & Development, Eastern Point Road, Groton, CT 06340 (US). **LI, Mei** [US/US]; Pfizer Global Research and Development, Eastern Point Road, Groton, CT 06340 (US). **PARALKAR, Vishwas, Madhav** [US/US]; Pfizer Global Research and Development, Eastern Point Road, Groton, CT 06340 (US). **THOMPSON, David, Duane** [US/US]; Pfizer Global Research and Development, Eastern Point Road, Groton, CT 06340 (US).

(74) Agents: **LUMB, Trevor, J.** et al.; Pfizer Inc., 201 Tabor Road, Morris Plains, NJ 07950 (US).

(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, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

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

Published:
— *with international search 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.

WO 03/045371 A1

(54) Title: PHARMACEUTICAL COMPOSITIONS AND METHODS FOR ADMINISTERING EP_2 RECEPTOR SELECTIVE AGONISTS

(57) Abstract: This invention is directed to pharmaceutical compositions and methods comprising prostglandin agonists, specifically EP_2 receptor selective agonists, which are useful to enhance bone repair and healing and restore or augment bone mass in vertebrates, particularly mammals. The EP_2 receptor selective agonists of the present invention are effective in the treatment of conditions such as those in which the patient has delayed or non-union fracture, bone defect, spinal fusion, bone in-growth, cranial facial reconstruction or bone sites at risk for fracture.