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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 October 2002 (17.10.2002)

PCT

(10) International Publication Number
WO 02/080859 A3

(51) International Patent Classification[7]: A61K 9/12, 9/14, 9/72

(21) International Application Number: PCT/US02/08067

(22) International Filing Date: 18 March 2002 (18.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/277,229 20 March 2001 (20.03.2001) US

(71) Applicant *(for all designated States except US)*: **GLAXO GROUP LIMITED** [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 0NN (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **KUNKA, Robert, Leonard** [US/US]; GlaxoSmithKline, Five Moore Drive, P.O. Box 13398, Research Triangle Park, NC 27709 (US). **SHAH, Tushar, Pannalal** [US/US]; GlaxoSmithKline, Five Moore Drive, P.O. Box 13398, Research Triangle Park, NC 27709 (US).

(74) Agents: **LEVY, David, L.** et al.; GlaxoSmithKline, Corporate Intellectual Property Dept., Five Moore Drive, P.O. Box 13398, Research Triangle Park, NC 27709 (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, 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:
— *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:
28 November 2002

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 02/080859 A3

(54) Title: INHALATION DRUG COMBINATIONS

(57) Abstract: A method for treating respiratory disorders by administrating by inhalation an effective amount of a ß$_2$-receptor agonist, an acceptable amount of a corticosteroid, and HFA 134a, to a patient in need thereof, is disclosed. Preferably, the ß$_2$-receptor agonist is salmeterol or a physiologically acceptable salt thereof, and the corticosteroid is fluticasone propionate or a solvate thereof. The combination of salmeterol, fluticasone proprionate, and HFA 134a may lower the risk of cardiac arrhythmias, sudden death, or hypercorticism that are sometimes associated with the simultaneous administration of a ß$_2$-receptor agonist and an anti-inflammatory corticosteroid.