PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : A61K 31/425

A1

(11) International Publication Number: WO 99/59585

(43) International Publication Date: 25 November 1999 (25.11.99)

(21) International Application Number: PCT/US99/11059

(22) International Filing Date: 19 May 1999 (19.05.99)

(30) Priority Data:
09/081,384 19 May 1998 (19.05.98) US

(71) Applicant *(for all designated States except US)*: THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: CAMDEN, James, Berger [US/US]; 7339 Charter Cup Lane, West Chester, OH 45069 (US).

(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217–1087 (US).

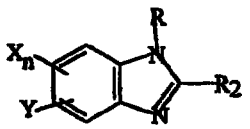
(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, 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 the receipt of amendments.

(54) Title: COMPOSITIONS FOR THE TREATMENT OF HIV AND OTHER VIRAL INFECTIONS



(I)

(57) Abstract

A pharmaceutical composition that can be used to treat viral infections, particularly HIV. The composition comprises from about 250 mg to about 6000 mg of a benzimidazole derivative of formula (I) or a pharmaceutically acceptable organic or inorganic addition salt thereof, wherein X is hydrogen, halogen, alkyl of less than 7 carbon atoms or alkoxy of less than 7 carbon atoms; n is a positive integer of less than 4; Y is hydrogen, chlorine, nitro, oxychloro, methyl or ethyl; R is hydrogen or an alkyl group having from 1 to 8 carbon atoms; and R_2 is 4–thiazolyl. The preferred compound is thiabendazole. In the present invention it has been discovered that the compounds described above are useful for the inhibition of HIV and the treatment of HIV infection when used alone or in combination with other anti–viral agents. These compositions can prevent replication of the HIV virus, prevent creation of virus strains that are resistant to treatment with benzimidazoles, prevent or delay infection of cells with HIV virus and delay reappearance of the virus in the treated cells. These compositions are also effective against hepatitis and viruses such as herpes, influenza and rhinoviruses.