PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C07D 403/04, 239/48, A61K 31/505 — A1

(11) International Publication Number: WO 99/41253

(43) International Publication Date: 19 August 1999 (19.08.99)

(21) International Application Number: PCT/US99/03136

(22) International Filing Date: 12 February 1999 (12.02.99)

(30) Priority Data:
60/075,005 17 February 1998 (17.02.98) US

(71) Applicant *(for all designated States except US)*: TULARIK INC. [US/US]; Two Corporate Drive, South San Francisco, CA 94080 (US).

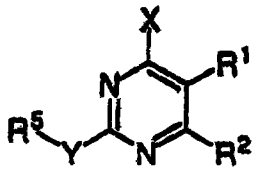
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: CUSHING, Timothy, D. [US/US]; Tularic Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). MELLON, Heather, L. [US/US]; Tularic Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). JAEN, Juan, C. [US/US]; Tularik Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). FLYGARE, John, A. [US/US]; Tularik Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). MIAO, Shi-Chang [CN/US]; Tularik Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). CHEN, Xiaoqi [CN/US]; Tularik Inc., Two Corporate Drive, South San Francisco, CA 94080 (US). POWERS, Jay, P. [US/US]; Tularik Inc., Two Corporate Drive, South San Francisco, CA 94080 (US).

(74) Agent: KEZER, William, B.; Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th Floor, San Francisco, CA 94111-3834 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, 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, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, 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: ANTI-VIRAL PYRIMIDINE DERIVATIVES



(I)

(57) Abstract

Compounds and compositions which are useful for the treatment of viral infections, particularly human Cytomegalovirus infection. The compounds include novel pyrimidine-based derivatives having formula (I) wherein X is a member selected from the group consisting of $-NR^3R^4$, $-OR^3$, $-SR^3$, aryl, alkyl and arylalkyl; Y is a member selected from the group consisting of a covalent bond, $-N(R^6)-$, $-O-$, $-S-$, $-C(=O)-$ and alkylene; R^1 and R^2 are members independently selected from the group consisting of hydrogen, alkyl, -O-alkyl, -S-alkyl, aryl, arylalkyl, -O-aryl, -S-aryl, $-NO_2$, $-NR^7R^8$, $-C(O)R^9$, $-CO_2R^{10}$, $-C(O)NR^7R^8$, $-N(R^7)C(O)R^9$, $-N(R^7)CO_2R^{11}$, $-N(R^9)C(O)NR^7R^8$, $-S(O)_mNR^7R^8$, $-S(O)_nR^9$, -CN, halogen, and $-N(R^7)S(O)_mR^{11}$.