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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 February 2008 (21.02.2008)

PCT

(10) International Publication Number
WO 2008/020150 A1

(51) International Patent Classification:
A61K 31/4412 (2006.01) *A61K 31/277* (2006.01)
A61K 31/122 (2006.01) *A61K 31/4439* (2006.01)
A61K 31/42 (2006.01) *A61K 31/341* (2006.01)
A61K 31/422 (2006.01) *A61P 25/24* (2006.01)
A61K 31/415 (2006.01) *A61P 25/30* (2006.01)
A61K 31/4155 (2006.01) *A61K 31/00* (2006.01)
A61K 31/357 (2006.01) *A61K 45/06* (2006.01)
A61K 31/44 (2006.01)

(21) International Application Number:
PCT/GB2006/003099

(22) International Filing Date: 18 August 2006 (18.08.2006)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant *(for all designated States except US)*: **SYNGENTA LIMITED** [GB/GB]; European Regional Centre, Priestley Road, Surrey Research Park, Guildford, Surry GU2 7YH (GB).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **TRAVIS, Kim, Zachary** [GB/GB]; CTL, Alderley Park, Macclesfield, Cheshire, SK10 4TJ (GB). **POSNER, John** [GB/GB]; Syngenta Limited, P.O.Box 3538, Jealott's Hill International Research Centre, Bracknell, Berks RG42 6YA (GB).

(74) Agent: **SYNGENTA LIMITED**; Intellectual Property Department, P.O. Box 3538, Jealott's Hill International Research Centre, Bracknell, Berks RG42 6YA (GB).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

WO 2008/020150 A1

(54) **Title:** USE OF HPPD INHIBITORS IN THE TREATMENT OF DEPRESSION AND/OR WITHDRAWAL SYMPTOMS ASSOCIATED WITH ADDICTIVE DRUGS

(57) **Abstract:** The present invention relates to, *inter alia*, the use of a compound capable of inhibiting 4-hydroxyphenylpyruvate dioxygenase (HPPD) in an animal in the manufacture of a medicament for use in the treatment and/or prevention of depression. The invention also provides for the use of a compound capable of inhibiting HPPD in an animal in the manufacture of a medicament for use in the treatment of the withdrawal symptoms associated with an addictive drug which causes dopamine dependant associative learning disorders in said animal. In a particular embodiment said HPPD inhibitor is selected from the group consisting of the compound depicted as compound 1; 2; and 3.22.