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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 November 2012 (08.11.2012)

WIPO | PCT

(10) International Publication Number
WO 2012/151451 A1

(51) **International Patent Classification**:
A61K 31/4965 (2006.01) *A61P 7/06* (2006.01)
A61K 31/497 (2006.01)

(21) **International Application Number**:
PCT/US2012/036412

(22) **International Filing Date**:
3 May 2012 (03.05.2012)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
61/482,171 3 May 2011 (03.05.2011) US

(71) **Applicant** *(for all designated States except US)*: **AGIOS PHARMACEUTICALS, INC.** [US/US]; 38 Sidney Street, Cambridge, MA 02139 (US).

(72) **Inventor; and**
(75) **Inventor/Applicant** *(for US only)*: **SU, Shin-San, Michael** [US/US]; 346 Hartman Road, Newton, MA 02459 (US).

(74) **Agent**: **MCCARTY, Catherine, M.**; Lando & Anastasi LLP, Riverfront Office Park, One Main Street, Suite 1100, Cambridge, MA 02142 (US).

(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*

WO 2012/151451 A1

(54) **Title**: PYRUVATE KINASE ACTIVATORS FOR USE IN THERAPY

(57) **Abstract**: Described herein are methods for using compounds that activate pyruvate kinase.