

# (12) International Application Status Report

**Received at International Bureau:** 15 June 2017 (15.06.2017)

**Information valid as of:** 26 September 2018 (26.09.2018)

**Report generated on:** 26 March 2019 (26.03.2019)

**(10) Publication number:**

WO2017/211293

**(43) Publication date:**

14 December 2017 (14.12.2017)

**(26) Publication language:**

Chinese (ZH)

**(21) Application Number:**

PCT/CN2017/087433

**(22) Filing Date:**

07 June 2017 (07.06.2017)

**(25) Filing language:**

Chinese (ZH)

**(31) Priority number(s):**

201610411126.7 (CN)

**(31) Priority date(s):**

08 June 2016 (08.06.2016)

**(31) Priority status:**

Priority document received (in compliance with PCT Rule 17.1)

**(51) International Patent Classification:**

*C07D 471/04* (2006.01); *A61K 31/4545* (2006.01); *A61P 3/10* (2006.01); *A61P 3/06* (2006.01); *A61P 5/48* (2006.01)

**(71) Applicant(s):**

XUANZHU PHARMA CO., LTD. [CN/CN]; 2518, Tianchen Street, National High-Tech Development Zone Jinan, Shandong 250101 (CN) (*for all designated states*)

**(72) Inventor(s):**

SHU, Chutian; 2518, Tianchen Street, National High-Tech Development Zone Jinan, Shandong 250101 (CN)

**(74) Agent(s):**

CCPIT PATENT AND TRADEMARK LAW OFFICE; 8th Floor, Vantone New World Plaza 2 Fuchengmenwai Street, Xicheng District Beijing 100037 (CN)

**(54) Title (EN):** CRYSTALLINE FORM OF SUCCINATE USED AS DIPEPTIDYL PEPTIDASE-4 INHIBITOR

**(54) Title (FR):** FORME CRISTALLINE DU SUCCINATE SERVANT D'INHIBITEUR DE LA DIPEPTIDYL PEPTIDASE-4

**(54) Title (ZH):** 二肽基肽酶-IV抑制剂的丁二酸盐的晶型

**(57) Abstract:**

**(EN):** The present invention relates to a crystalline form of a succinate used as a dipeptidyl peptidase-4 inhibitor, and a manufacturing method, pharmaceutical composition, and application thereof. The invention specifically relates to a dipeptidyl peptidase-4 inhibitor compound as represented by formula (1), a crystalline form of a succinate, wherein the succinate is an (R)-2-((7-(3-aminopiperidin-1-yl)-3,5-dimethyl-2-oxo-2,3-dihydro-1H-imidazo(4,5-b)pyridin-1-yl)methyl)benzotrile, and a manufacturing method, pharmaceutical composition, and application thereof.

**(FR):** La présente invention concerne une forme cristalline d'un succinate servant d'inhibiteur de la dipeptidyl peptidase-4, ainsi qu'un procédé de fabrication associé, une composition pharmaceutique et son application. L'invention concerne plus précisément un composé inhibiteur de la dipeptidyl peptidase-4 tel que représenté par la formule (1), une forme cristalline d'un succinate, le succinate étant un (R)-2-((7-(3-aminopiperidin-1-yl)-3,5-diméthyl-2-oxo-2,3-dihydro-1H-imidazo(4,5-b)pyridin-1-yl)méthyl)benzotrile, ainsi qu'un procédé de fabrication associé, une composition pharmaceutique et son application.

**(ZH):** 涉及二肽基肽酶-IV抑制剂的丁二酸盐的晶型、其制备方法、药物组合物及应用。具体地涉及作为二肽基肽酶-IV抑制剂的式(1)所示化合物(R)-2-((7-(3-氨基哌啶-1-基)-3,5-二甲基-2-氧代-2,3-二氢-1H-咪唑并(4,5-b)吡啶-1-基)甲基)苯甲腈的丁二酸盐的晶型、其制备方法、药物组合物及应用。

**International search report:**

Received at International Bureau: 04 August 2017 (04.08.2017) [CN]

**International Report on Patentability (IPRP) Chapter II of the PCT:**

Not available

**(81) Designated States:**

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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

European Patent Office (EPO) : 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

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM