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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 February 2022 (10.02.2022)

WIPO | PCT

(10) International Publication Number
WO 2022/031701 A1

(51) International Patent Classification:
C07D 417/14 (2006.01) *A61K 31/506* (2006.01)
A61P 25/28 (2006.01)

(21) International Application Number:
PCT/US2021/044341

(22) International Filing Date:
03 August 2021 (03.08.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/060,281 03 August 2020 (03.08.2020) US

(71) Applicant: **BIOGEN MA INC.** [US/US]; 225 Binney Street, Cambridge, MA 02142 (US).

(72) Inventors: **WELDEAB, Asmerom**; c/o Biogen MA Inc., 225 Binney Street, Cambridge, MA 02142 (US). **CORREIA, Tae Kim**; c/o Biogen MA Inc., 225 Binney Street, Cambridge, MA 02142 (US). **JENKINS, Aireal Diane**; c/o Biogen MA Inc., 225 Binney Street, Cambridge, MA 02142 (US). **LIN, Yiqing**; c/o Biogen MA Inc., 225 Binney Street, Cambridge, MA 02142 (US). **LI, Chaomin**; c/o Biogen MA Inc., 225 Binney Street, Cambridge, MA 02142 (US).

(74) Agent: **DAVIS, Steven G.** et al.; McCarter & English, LLP, 265 Franklin Street, Boston, MA 02110 (US).

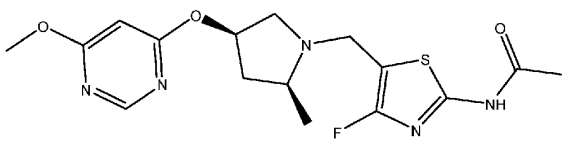
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, ST, 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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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

(54) Title: CRYSTALINE FORMS OF AN O-GLYCOPROTEIN-2-ACETAMIDO-2-DEOXY-3-D-GLUCOPYRANOSIDASE INHIBITOR



(I)

(57) Abstract: Described herein are solid forms of N-(4-fluoro-5-(((2S,4R)-4-((6-methoxypyrimidin-4-yl)oxy)-2-methylpyrrolidin-1-yl)methyl)thiazol-2-yl)acetamide, compound (I): (I) and the process of making said solid forms of compound (I). The present invention further relates to a pharmaceutical composition comprising crystalline Form A and Form B of compound (I), and methods of using said form and pharmaceutical composition in the treatment and prevention of Alzheimer's disease and related neurological disorders.

WO 2022/031701 A1