

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
30 March 2023 (30.03.2023)



(10) International Publication Number
WO 2023/048641 A3

(51) International Patent Classification:

C07D 401/12 (2006.01) A61P 31/04 (2006.01)

A61K 31/4402 (2006.01) G16C 20/64 (2019.01)

(21) International Application Number:

PCT/SG2022/050676

(22) International Filing Date:

21 September 2022 (21.09.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202110405X 21 September 2021 (21.09.2021) SG

(71) Applicant: **NANYANG TECHNOLOGICAL UNIVERSITY** [SG/SG]; 50 Nanyang Avenue, Singapore 639798 (SG).

(72) Inventors: **GRÜBER, Gerhard**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG). **SHIN, Joon**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG). **AMAR-AVADHI, Venkata Krishna Harikishore**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG). **WONG, Chui Fann**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG). **RAGUNATHAN, Priya**; c/o Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798 (SG).

(74) Agent: **KINNAIRD, James Welsh**; Marks & Clerk Singapore LLP, Tanjong Pagar Post Office, P.O. Box 636, Singapore 910816 (SG).

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, 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:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
— with sequence listing part of description (Rule 5.2(a))

(88) Date of publication of the international search report:

22 June 2023 (22.06.2023)

(54) Title: MYCOBACTERIUM ABSCESSUS GROWTH INHIBITOR AND MODEL

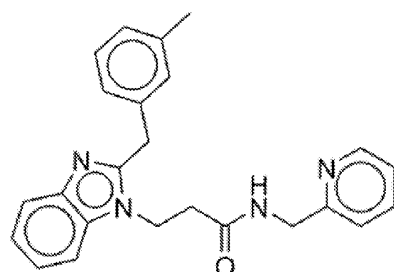


FIG. 13A-B

(57) Abstract: This invention relates to compounds having the generic structure of formula I: X-L-Y-Z I which are useful in the treatment of a bacterial infection caused by Mycobacterium abscessus, where: X is selected from an unsubstituted or substituted phenyl, pyridyl, quinazoliny, or naphthyl; Y is an unsubstituted or substituted heteroaryl ring system selected from benzimidazolyl, benzothiazolyl, benzofuranyl, quinazoliny, and naphthyl; Z is selected from H, phenyl and pyridyl, where the phenyl and pyridyl groups are unsubstituted or substituted; L is selected from -CH₂NHCOCH₂CH₂- or -CH₂-phenyl-CH₂-, -CH₂-, -NH-pyrrolyl, imidazolyl, and thiazolyl or a pharmaceutically acceptable salt or solvate thereof.

WO 2023/048641 A3