

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
03 February 2022 (03.02.2022)



(10) International Publication Number
WO 2022/022503 A1

(51) International Patent Classification:

C07K 16/00 (2006.01) A61K 39/395 (2006.01)
C07K 16/28 (2006.01) A61K 39/00 (2006.01)
C07K 14/71 (2006.01) A61P 35/00 (2006.01)

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(21) International Application Number:

PCT/CN2021/108643

(22) International Filing Date:

27 July 2021 (27.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/CN2020/105286
28 July 2020 (28.07.2020) CN
PCT/CN2021/098476
04 June 2021 (04.06.2021) CN

(71) Applicant: **LEPU BIOPHARMA CO., LTD.** [CN/CN];
1-C280, No. 1628 Suzhao Road, Shanghai 201114 (CN).

(72) Inventors: **GONG, Wenci**; c/o Lepu Biopharma Co.,
Ltd., 1-C280, No. 1628 Suzhao Road, Shanghai 201114
(CN). **TOU, Yiwei**; No. 37, Chaoqian Road, Changping
Tech.Zone, Beijing 102200 (CN).

(74) Agent: **WINGUAN PATENT AND TRADEMARK AT-
TORNEYS**; Tower A, 2317, China Shine Plaza 9 Linhe
Xi Road, Tianhe District, Guangzhou, Guangdong 510610
(CN).

(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).

(54) Title: BIFUNCTIONAL MOLECULES TARGETING PD-L1 AND TGF-BETA

(57) Abstract: Provided are anti-PD-L1 antibodies with superior activities in blocking the PD-1 and PD-L1 interactions. Also provided are multifunctional molecules that include the anti-PD-L1 antibodies or fragments thereof fused to an extracellular domain of human TGF-beta receptor type-2.

WO 2022/022503 A1