

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
20 January 2022 (20.01.2022)



(10) International Publication Number
WO 2022/012681 A1

(51) International Patent Classification:

C07K 19/00 (2006.01) C12N 15/62 (2006.01)
C07K 14/725 (2006.01) C12N 15/63 (2006.01)
C07K 16/28 (2006.01) C12N 5/10 (2006.01)
C07K 16/30 (2006.01) A61P 35/00 (2006.01)

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Published:

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

(21) International Application Number:

PCT/CN2021/106889

(22) International Filing Date:

16 July 2021 (16.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/CN2020/102470

16 July 2020 (16.07.2020) CN

(71) Applicant: NANJING LEGEND BIOTECH CO., LTD.

[CN/CN]; No. 6 Building Of Nanjing Life Science Town,
No. 568 Longmian Avenue, Jiangning District, Nanjing,
Jiangsu 211100 (CN).

(72) Inventors: FAN, Xiaohu; 1067 Armitage Crescent SW,

Edmonton, Alberta T6W 0K3 (CA). ZHOU, Zhe; 4th
Floor, Building A, Tsinghua Tongfang Industrial Park,
No.33 Jingyou Road, Jiangning District, Nanjing, Jiang-
su 211100 (CN). PAN, Hongbo; 4th Floor, Building A,
Tsinghua Tongfang Industrial Park, No.33 Jingyou Road,
Jiangning District, Nanjing, Jiangsu 211100 (CN).

(74) Agent: AFD CHINA INTELLECTUAL PROPERTY

LAW OFFICE; Tower B, 21st Fl., Suite 2108, 38 Xueqing
Road, Haidian, Beijing 100083 (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,

(54) Title: MULTISPECIFIC CHIMERIC ANTIGEN RECEPTORS AND USES THEREOF

(57) Abstract: The present disclosure provides chimeric antigen receptors targeting CD20, CD19 and/or CD22. Further provided are engineered immune effector cells (such as T cells) comprising the chimeric antigen receptors. Pharmaceutical compositions, kits and methods of treating a disease or disorder are also provided.



WO 2022/012681 A1