

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 July 2022 (28.07.2022)



(10) International Publication Number
WO 2022/156687 A1

(51) International Patent Classification:

C07K 16/18 (2006.01) C12N 15/13 (2006.01)
C07K 16/46 (2006.01) A61K 39/395 (2006.01)
C07K 16/30 (2006.01)

(21) International Application Number:

PCT/CN2022/072592

(22) International Filing Date:

18 January 2022 (18.01.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/CN2021/072601

19 January 2021 (19.01.2021) CN

(71) Applicant (for CN only): **WUXI BIOLOGICS (SHANGHAI) CO., LTD.** [CN/CN]; No. 299 Fute Zhong Road, Pudong New District, Shanghai 200131 (CN).

(71) Applicant (for all designated States except CN): **WUXI BIOLOGICS IRELAND LIMITED** [IE/IE]; Mullagharlin, Dundalk, Co Louth A91 X56f (IE).

(72) Inventors: **XU, Jianqing**; No. 299 Fute Zhong Road, Pudong New District, Shanghai 200131 (CN). **WANG, Shuang**; No. 299 Fute Zhong Road, Pudong New District, Shanghai 200131 (CN). **GU, Jijie**; No. 299 Fute Zhong Road, Pudong New District, Shanghai 200131 (CN).

(74) Agent: **CCPIT PATENT AND TRADEMARK LAW OFFICE**; 10/F, Ocean Plaza, 158 Fuxingmennei Street, Beijing 100031 (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,

(54) Title: POLYPEPTIDE COMPLEXES WITH IMPROVED STABILITY AND EXPRESSION

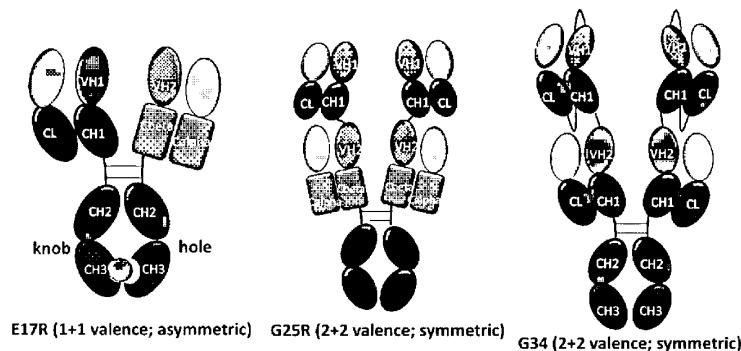


Figure 14

(57) Abstract: A polypeptide complex is provided. The polypeptide complex comprises antibody variable regions of the heavy chain and light chain respectively fused to modified TCR constant regions, wherein the modified TCR constant regions comprises at least one mutations to stabilize the polypeptide complex such that polypeptide complex has improved stability and/or expression level. A bispecific antigen binding polypeptide complex that contains a first antigen-binding moiety of the polypeptide complex and a second antigen-binding moiety, methods of producing the polypeptide complex or the bispecific antigen binding polypeptide complex, methods of treating disease or disorder using the polypeptide complex or the bispecific antigen binding polypeptide complex, polypeptides encoding the polypeptide complex and/or the bispecific antigen binding polypeptide complex, vectors and host cells containing the polypeptides, compositions and pharmaceutical compositions comprising the polypeptide complex and/or the bispecific antigen binding polypeptide complex are also provided herein.

[Continued on next page]

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).

Published:

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