

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
29 July 2021 (29.07.2021)



(10) International Publication Number
WO 2021/148006 A1

(51) International Patent Classification:
C07K 16/46 (2006.01)

(21) International Application Number:
PCT/CN2021/073347

(22) International Filing Date:
22 January 2021 (22.01.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/CN2020/073960
23 January 2020 (23.01.2020) CN

(71) Applicant: ADAGENE AG [CH/CH]; Innere Margarethenstr. 5, 4051 Basel (CH).

(71) Applicant (for MN only): LUO, Peter, Peizhi [US/CN]; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN).

(72) Inventors: DU, Fangyong; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN). LIU, Guizhong; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN). DAI, Zhengxi; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN). SHI, Jianfeng; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN). LIN, Zhixiong; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN). LI, Yan; c/o Adagene Inc., 4F, Building C14, 218 Xinghu St., Suzhou Industrial Park, Suzhou, Jiangsu 215123 (CN).

(74) Agent: WU, FENG & ZHANG; 3 FL, Building 2, Yard 3, FengXiuZhongLu Road, Haidian District, Beijing 100094 (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).

Declarations under Rule 4.17:

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

Published:

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

WO 2021/148006 A1

(54) Title: HETERODIMERIC PROTEINS WITH FC MUTATIONS

(57) Abstract: Provided are heterodimeric proteins comprising polypeptides having CH3 domains with engineered residues that form disulfide bonds and/or salt bridges. Also provided are activatable antibodies targeting CD3 and/or HER2. Compositions, methods of manufacture and methods of treatment using the heterodimeric proteins and the activatable antibodies are further provided.