



(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/US2022/012038

(22) International Filing Date:
11 January 2022 (11.01.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/136,120 11 January 2021 (11.01.2021) US

(71) Applicant: **ADIMAB, LLC** [US/US]; 7 Lucent Drive,
Lebanon, New Hampshire 03766 (US).

(72) Inventors: **STEIN, Caitlin**; c/o Adimab, LLC, 7 Lucent
Drive, Lebanon, New Hampshire 03766 (US). **PEJCHAL,**
Robert; c/o Adimab, LLC, 7 Lucent Drive, Lebanon,
New Hampshire 03766 (US). **MCCREARY, Julia**; c/o
Adimab, LLC, 7 Lucent Drive, Lebanon, New Hampshire

03766 (US). **BARLOW, Kyle**; c/o ADIMAB, LLC, 7 Lu-
cent Drive, Lebanon, New Hampshire 03766 (US). **SI-**
VASUBRAMANIAN, Arvind; c/o Adimab, LLC, 7 Lu-
cent Drive, Lebanon, New Hampshire 03766 (US). **BAT-**
TLES, Michael Benjamin; c/o ADIMAB, LLC, 7 Lucent
Drive, Lebanon, New Hampshire 03766 (US).

(74) Agent: **TESKIN, Robin, L.** et al.; BAKER, DONELSON,
BEARMAN, CALDWELL & BERKOWITZ, P.C., Intel-
lectual Property Department, 901 K Street, NW, Suite 900,
Washington, District of Columbia 20001 (US).

(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,

(54) Title: VARIANT CH3 DOMAINS ENGINEERED FOR PREFERENTIAL CH3 HETERODIMERIZATION, MULTI-SPECIFIC
ANTIBODIES COMPRISING THE SAME, AND METHODS OF MAKING THEREOF

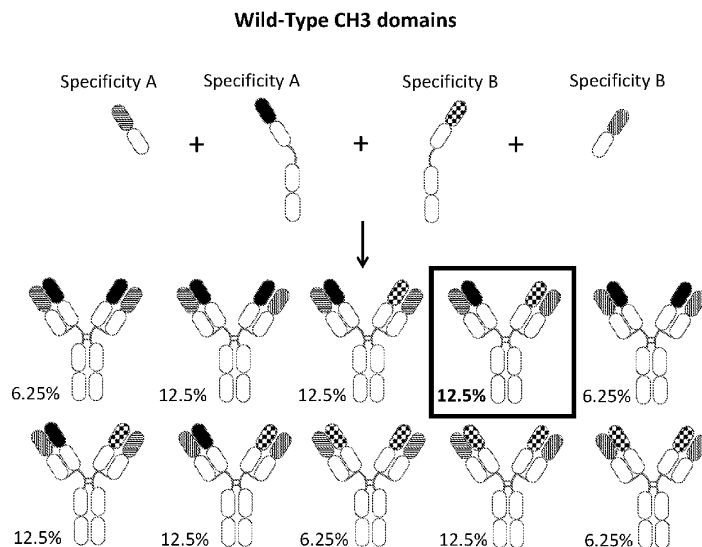


FIG. 1A

(57) Abstract: Variant CH3 domain polypeptides are provided that preferentially form CH3-CH3 heterodimers over CH3-CH3 ho-
modimers. Such variant CH3 domains can be used to promote desired Fc pairing, thus providing for efficient development of bispecific
and multispecific antibodies as well as Fc fusions of different formats. Methods of producing bispecific antibodies using such variant
CH3 domains and for producing libraries containing such variant CH3 domains are also provided.

[Continued on next page]

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 applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*