

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
25 April 2024 (25.04.2024)



(10) International Publication Number
WO 2024/082060 A9

(51) International Patent Classification:

C07K 16/28 (2006.01) *C07K 16/30* (2006.01)
A61K 39/395 (2006.01) *C07K 16/46* (2006.01)
A61P 35/00 (2006.01) *C12N 15/13* (2006.01)
A61P 37/04 (2006.01) *C12P 21/08* (2006.01)
C07K 16/00 (2006.01)

(21) International Application Number:

PCT/CA2023/051391

(22) International Filing Date:

19 October 2023 (19.10.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/417,542	19 October 2022 (19.10.2022)	US
63/458,852	12 April 2023 (12.04.2023)	US
63/465,137	09 May 2023 (09.05.2023)	US
63/591,311	18 October 2023 (18.10.2023)	US

(71) Applicant: **ZYMEWORKS BC INC.** [CA/CA]; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA).

(72) Inventors: **AFACAN, Nicole**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **PISCITELLI, Chayne L.**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **NEWHOOK, Lisa**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **BHOJANE, Purva Prashant**; 114 East 4th Avenue, Suite 800, Van-

couver, British Columbia V5T 1G4 (CA). **ZWIERZ-CHOWSKI, Patricia**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **REPENNING, Peter**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **WEISSER, Nina E.**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **SPRETER VON KREUDENSTEIN, Thomas**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **TAO, Paula**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **DOUDA, David**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **FERNES, Kelsey**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **JANCOWSKI, Sylwia**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **KANG, Sukhbir Singh**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **FREIBURGER, Lee**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA). **ESCALANTE, Nichole K.**; 114 East 4th Avenue, Suite 800, Vancouver, British Columbia V5T 1G4 (CA).

(74) Agent: **SALISBURY, Clare et al.**; Gowling WLG (Canada) LLP, 550 Burrard Street, Suite 2300, Bentall 5, Vancouver, British Columbia V6C 2B5 (CA).

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,

(54) Title: TRIVALENT AND TRISPESIFIC ANTIBODY CONSTRUCTS AND METHODS OF USE THEREOF

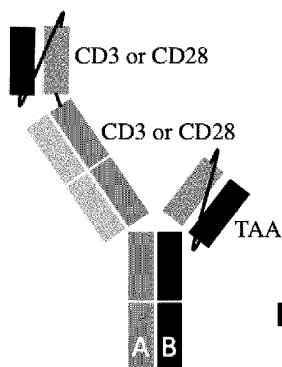


FIG. 1A

(57) Abstract: The present disclosure provides trivalent and trispesific antibody constructs capable of binding two different antigens on one or more cytotoxic effector cell(s) and a tumor-associated antigen (TAA) on a tumor cell. Pharmaceutical compositions comprising such antibody constructs and methods of preparing and using such constructs and compositions, e.g., for the treatment of cancer, are also disclosed.

[Continued on next page]

KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, 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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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:

- *of inventorship (Rule 4.17(iv))*

Published:

- *with international search report (Art. 21(3))*
- *with information concerning authorization of rectification of an obvious mistake under Rule 91.3 (b) (Rule 48.2(i))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

(48) Date of publication of this corrected version:

16 January 2025 (16.01.2025)

(15) Information about Correction:

see Notice of 16 January 2025 (16.01.2025)