



(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/US2023/065553

(22) International Filing Date:
07 April 2023 (07.04.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/329,003 08 April 2022 (08.04.2022) US

(71) Applicant: 2SEVENTY BIO, INC. [US/US]; 60 Binney Street, Cambridge, Massachusetts 02142 (US).

(72) Inventors: JARJOUR, Jordan; 11014 37th Avenue SW, Seattle, Washington 98146 (US). LELEUX, Jardin Alexandra; 12711 Evanston Ave N., Seattle, Washington 98133 (US). POGSON, Mark; 3122 SE 16th Street, North Bend, Washington 98045 (US).

(74) Agent: GASTONGUAY, Adam et al.; c/o 2seventy bio, Inc., 60 Binney Street, Cambridge, Massachusetts 02142 (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, 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, 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,

(54) Title: MULTIPARTITE RECEPTOR AND SIGNALING COMPLEXES

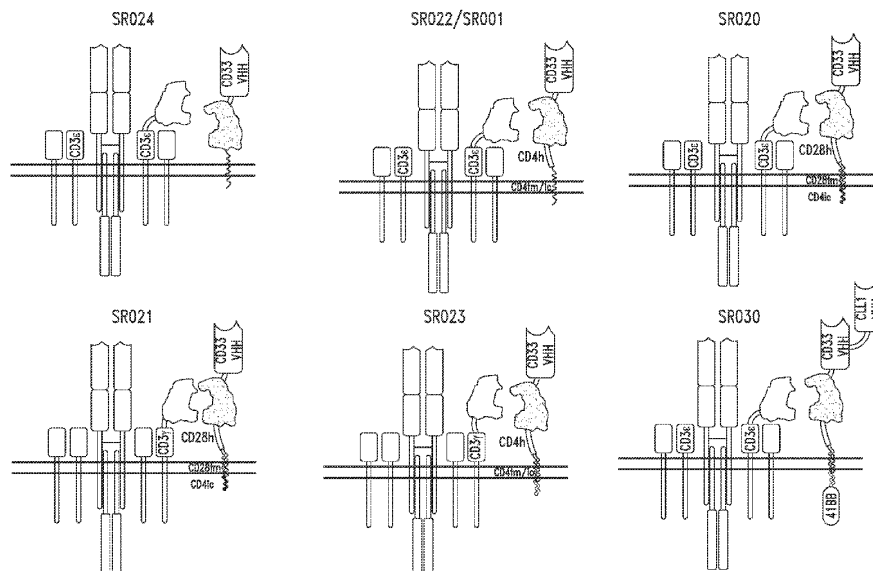


FIG. 1D

(57) Abstract: The present disclosure provides adoptive T cell therapies that have improved architectures for targeting antigens and recruiting multimeric immune signaling complexes for treating, preventing, or ameliorating at least one symptom of a cancer, infectious disease, autoimmune disease, inflammatory disease, and immunodeficiency, or condition associated therewith.

[Continued on next page]

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))*