

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
12 August 2021 (12.08.2021)



(10) International Publication Number
WO 2021/158178 A1

(51) International Patent Classification:

C07K 16/40 (2006.01) G01N 33/577 (2006.01)
A61K 39/395 (2006.01) A61P 35/00 (2006.01)

(21) International Application Number:

PCT/SG2021/050061

(22) International Filing Date:

05 February 2021 (05.02.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202001139U 07 February 2020 (07.02.2020) SG

(71) Applicant: **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10, Connexis North Tower, Singapore 138632 (SG).

(72) Inventors: **SUN, William**; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #07-01, Singapore 138669 (SG). **TAN, Boon Ooi Patrick**; c/o Genome Institute of Singapore, 60 Biopolis Street, Genome, #02-01, Singapore 138672 (SG). **WANG, Huajing**; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #07-01, Singapore 138669 (SG). **YAP, Thai Leong**; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #07-01, Singapore 138669 (SG). **HONG, Shin Yee**; c/o Institute of Bioengineering and Nanotechnology, 31 Biopolis Way, #07-01, Singapore 138669 (SG). **WANG, Cheng-I**; c/o Singapore Immunology Network, 8A Biomedical Grove, Level 3, Immunos Building, Singapore 138648 (SG). **HUANG, Ching-Wen**; c/o Singapore Immunology Network, 8A Biomedical Grove, Level 3, Immunos Building, Singapore 138648 (SG). **LEE, Shuet Theng**; c/o Experimental Drug Development Centre, 10 Biopolis Road, #05-01, Singapore 138670 (SG). **WAN, Kah Fei**; c/o Experimental Drug Development Centre,

10 Biopolis Road, #05-01, Singapore 138670 (SG). **NG, Jian Duan Johnathan**; c/o Experimental Drug Development Centre, 10 Biopolis Road, #05-01, Singapore 138670 (SG).

(74) Agent: **DAVIES COLLISON CAVE ASIA PTE. LTD.**; 10 Collyer Quay #07-01, Ocean Financial Centre, Singapore 049315 (SG).

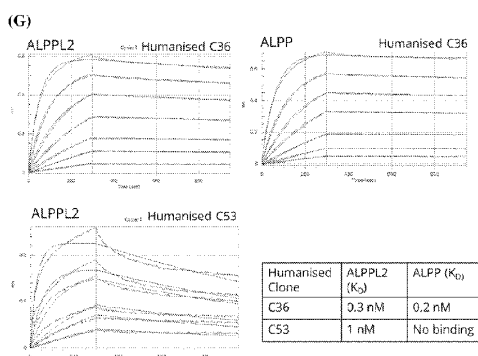
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, 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:

— of inventorship (Rule 4.17(iv))

(54) Title: ANTIGEN-BINDING MOLECULES AGAINST ALPPL2 AND/OR ALPP AND USES THEREOF



(57) Abstract: The invention relates to antigen-binding molecules that specifically binds ALPPL2 and/or ALPP but not ALPL or ALPI. It also relates to a pharmaceutical composition, an immunoconjugate and a chimeric antigen receptor comprising said antigen-binding molecules. The invention also relates to methods for reducing the expression or activity of ALPPL2 in a cancer cell and methods of treating a cancer in a subject.

[Continued on next page]

Published:

- *with international search report (Art. 21(3))*
- *with sequence listing part of description (Rule 5.2(a))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*