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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 June 2023 (15.06.2023)

WIPO | PCT

(10) International Publication Number
WO 2023/105005 A1

(51) International Patent Classification:
A61K 39/00 (2006.01) *A61K 35/17* (2015.01)
A61P 35/00 (2006.01)

(21) International Application Number:
PCT/EP2022/085072

(22) International Filing Date:
08 December 2022 (08.12.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/EP2021/085063
09 December 2021 (09.12.2021) EP
PCT/EP2022/074408
01 September 2022 (01.09.2022) EP

(71) Applicant: **BIONTECH SE** [DE/DE]; An der Goldgrube 12, 55131 Mainz (DE).

(72) Inventors: **SAHIN, Ugur**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE). **OEHM, Petra**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE). **RENGSTL, Benjamin**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE). **REINHARD, Katharina**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE). **PREUSSNER, Liane Monika**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE). **TÜRECI, Özlem**; c/o BioNTech SE, An der Goldgrube 12, 55131 Mainz (DE).

(74) Agent: **THOMANN, William**; Zwicker Schnappauf & Partner Patentanwälte PartG mbB, Hansastr. 32, 80686 München (DE).

(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, 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, 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).

Published:
— *with international search report (Art. 21(3))*
— *with sequence listing part of description (Rule 5.2(a))*

WO 2023/105005 A1

(54) Title: CHIMERIC ANTIGEN RECEPTOR-MODIFIED CELLS FOR THE TREATMENT OF CLDN6 EXPRESSING CANCER

(57) Abstract: The present disclosure relates to chimeric antigen receptor (CAR) expressing immune effector cells showing highly specific and sensitive recognition of CLDN6 expressing cancer cells as well as a high potential for treating cancer in humans.