



(51) International Patent Classification:

A61K 38/08 (2019.01) C07K 14/02 (2006.01)
A61K 38/10 (2006.01)

(21) International Application Number:

PCT/EP2020/084636

(22) International Filing Date:

04 December 2020 (04.12.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

19214315.4 07 December 2019 (07.12.2019) EP

(71) Applicants: ISA PHARMACEUTICALS [NL/NL]; J.H. Oortweg 19, 2333 CH Leiden (NL). ERASMUS UNIVERSITY MEDICAL CENTER ROTTERDAM [NL/NL]; Dr. Molewaterplein 50, 3015 GE Rotterdam (NL).

(72) Inventors: BUSCHOW, Sonja, Ingrid; Steijnstraat 16 bis, 3531 AV Utrecht (NL). DE BEIJER, Monica, Theodo-

ra, Antonetta; Marseilhof 12, 3067 WH Rotterdam (NL). MOLENAAR, Miranda, Bernardina, Johanna; Machinekade 7, 3601 AR Maarssen (NL). BEENAKKER, Thomas, Johannes, Maria; Sint Jacobshof 17, 2311 HC Leiden (NL). KREBBER, Wilhelmus, Johannes, Theodorus, Alexander; Roodborststraat 37, 2333 VN Leiden (NL). MELIEF, Cornelis, Johannes, Maria; Wilhelmminapark 33, 2012 KC Haarlem (NL). WIEKMEIJER, Anna-Sophia; Rhijngesteerstraatweg 28B, 2342 AM Oegstgeest (NL). VAN RIJN, Peter; Bachstraat 424, 2324 GZ Leiden (NL). JANSEN, Diahann, Talia, Satirah, Ludovica; Hans Flustra 14, 2321 JM Leiden (NL). VAN ESCH, Wilhelmus Johannes Elisabeth; Masastraat 49, 1448 MG Purmerend (NL).

(74) Agent: VAN DEN HAZEL, Hendrik, Bart; Robert Willamestraat 49, 1160 Brussels (BE).

(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,

(54) Title: TREATMENT OF DISEASES RELATED TO HEPATITIS B VIRUS

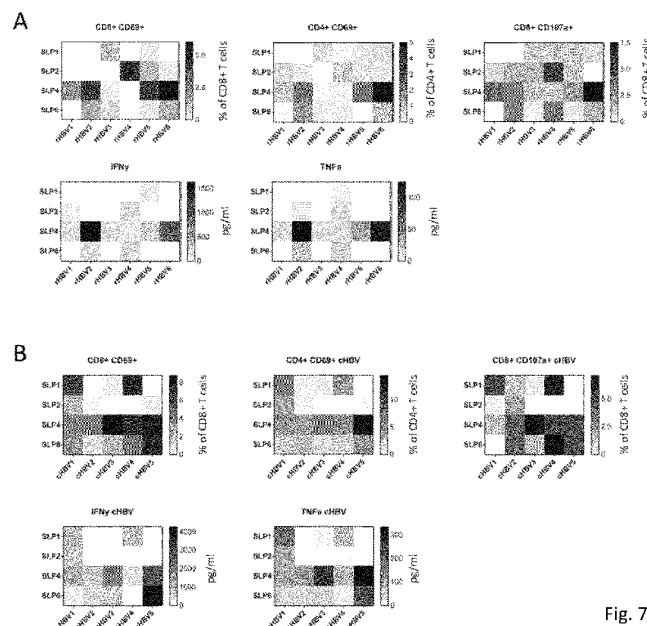


Fig. 7

(57) Abstract: The invention provides novel immunogenic peptides derived from the X protein and polymerase protein of hepatitis B virus (HBV). The peptides contain epitopes that are well-conserved across multiple HBV variants and are derived from regions of proteins that are essential for viral replication. Moreover, the novel HBV antigens bind multiple HLA types and epitopes that elicit IFN γ responses in PBMCs from HBV resolvers have been identified.

[Continued on next page]

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).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- with sequence listing part of description (Rule 5.2(a))