

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

(19) World Intellectual Property  
Organization

International Bureau

(43) International Publication Date  
09 September 2022 (09.09.2022)



(10) International Publication Number  
**WO 2022/184287 A1**

(51) International Patent Classification:

A61K 39/12 (2006.01) C07K 14/005 (2006.01)

(21) International Application Number:

PCT/EP2021/074738

Published:

- with international search report (Art. 21(3))
- with amended claims (Art. 19(1))
- with sequence listing part of description (Rule 5.2(a))

(22) International Filing Date:

09 September 2021 (09.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/EP2021/055401

03 March 2021 (03.03.2021) EP

(71) Applicant: **ROCKETVAX AG** [CH/CH]; Rittergasse 3,  
4051 Basel (CH).

(72) Inventors: **CHRISTEN, Matthias**; c/o Gigabases Switzerland AG Brunnigasse 11, 4153 Reinach (CH). **CMILJANOVIC VRANIC, Natasa**; Margarethenstrasse 87, 4053 Basel (CH). **CMILJANOVIC, Vladimir**; Füllinsdörferstrasse 9c, 4304 Giebenach (CH).

(74) Agent: **VOSSIUS & PARTNER PATENTANWÄLTE RECHTSANWÄLTE MBB**; Siebertstraße 3, 81675 Munich (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, 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).

(54) Title: FULLY SYNTHETIC, LONG-CHAIN NUCLEIC ACID FOR VACCINE PRODUCTION TO PROTECT AGAINST CORONAVIRUSES

(57) Abstract: This invention describes a fully synthetic, long-chain nucleic acid that can be used in biotechnological manufacturing processes to produce envelope proteins, virus envelopes and fragments of virus envelopes of SARS-CoV-2 and related coronaviruses in highly purified form, which, as a vaccine protect against COVID-19 and other viral diseases



WO 2022/184287 A1