

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
30 November 2023 (30.11.2023)



(10) International Publication Number
WO 2023/227608 A1

(51) International Patent Classification:

A61K 39/108 (2006.01) A61P 31/02 (2006.01)
C07K 14/265 (2006.01) C12N 15/31 (2006.01)

(21) International Application Number:

PCT/EP2023/063799

(22) International Filing Date:

23 May 2023 (23.05.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/345,610 25 May 2022 (25.05.2022) US

(71) Applicants: GLAXOSMITHKLINE BIOLOGICALS

SA [BE/BE]; Rue de l'Institut 89, B-1330 Rixensart (BE). CUREVAC SE [DE/DE]; Friedrich-Miescher-Str. 15, 72076 Tübingen (DE).

(72) Inventors: ADAMO, Roberto; GSK, Via Fiorentina, 1,

53100 Siena (IT). GROSSE, Hans Wolfgang; CureVac SE, Friedrich-Miescher-Str. 15, 72076 Tübingen (DE). PETSCH, Benjamin; CureVac SE, Friedrich-Miescher-Str. 15, 72076 Tübingen (DE). PHOGAT, Sanjay; GSK, Via Fiorentina, 1, 53100 Siena (IT). RAUCH, Susanne; CureVac SE, Friedrich-Miescher-Str. 15, 72076 Tübingen (DE). ROIER, Sandro; CureVac SE, Friedrich-Miescher-Str. 15, 72076 Tübingen (DE). ROSINI, Roberto; GSK, Via Fiorentina, 1, 53100 Siena (IT).

(74) Agent: RAVASIO, Sara; 980 Great West Road, Brentford,

Middlesex TW8 9GS (GB).

(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,

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

(54) Title: NUCLEIC ACID BASED VACCINE ENCODING AN ESCHERICHIA COLI FIMH ANTIGENIC POLYPEPTIDE

(57) Abstract: The disclosure is directed to a coding RNA encoding an antigenic polypeptide which is selected or derived from *Escherichia coli* FimH. The present disclosure is also directed to compositions and vaccines comprising said coding RNA. Further, the disclosure concerns a kit, particularly a kit of parts comprising the coding RNA, or the composition, or the vaccine. The disclosure is also directed to methods of treating or preventing a disorder caused by *E. coli*.

WO 2023/227608 A1