

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
20 June 2024 (20.06.2024)



(10) International Publication Number
WO 2024/127215 A3

(51) International Patent Classification:
A61K 39/08 (2006.01) *A61P 31/04* (2006.01)

(21) International Application Number:
PCT/IB2023/062488

(22) International Filing Date:
11 December 2023 (11.12.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/387,100 13 December 2022 (13.12.2022) US
63/485,995 20 February 2023 (20.02.2023) US
63/598,556 14 November 2023 (14.11.2023) US

(71) Applicant: **PFIZER INC.** [US/US]; 66 Hudson Boulevard East, New York, New York 10001-2192 (US).

(72) Inventors: **ANDERSON, Annaliesa Sybil**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **GONZALEZ-GARIS, Marina A.**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **HU, Lei**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **KANEVSKY, Isis**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **LIBERATOR, Paul Arthur**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **MORAN, Justin Keith**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **PHELAN, Lynn Marie**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **PRIDE, Michael William**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **SHI, Shuai**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US). **SURENDRAN, Naveen**; c/o Pfizer Inc., 401 N. Middletown Road, Pearl River, New York 10965 (US).

(74) Agent: **ZIELINSKI, Bryan C.**; PFIZER INC., 100 Route 206 North, Mail Stop: SOM-PPK4-LLA-403, Peapack, New Jersey 07977 (US).

(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, 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).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE

(88) Date of publication of the international search report:
07 November 2024 (07.11.2024)

(54) Title: IMMUNOGENIC COMPOSITIONS AND METHODS FOR ELICITING AN IMMUNE RESPONSE AGAINST CLOSTRIDIODES (CLOSTRIDIUM) DIFFICILE

(57) Abstract: The present invention relates to immunogenic compositions that comprise a Clostridioides difficile toxoid A and/or a C. difficile toxoid B, and an adjuvant, and methods of use thereof. The present invention further relate to a methods for eliciting an enhanced immune response in a human against a C. difficile infection. The methods include administering to the human an effective dose of an immunogenic composition, which includes a C. difficile toxoid and an adjuvant, wherein the composition is administered two times.



WO 2024/127215 A3