

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 December 2022 (01.12.2022)



(10) International Publication Number
WO 2022/248566 A1

(51) International Patent Classification:
A01N 1/00 (2006.01) *C12Q 1/68* (2018.01)

(21) International Application Number:
PCT/EP2022/064237

(22) International Filing Date:
25 May 2022 (25.05.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
21175871.9 26 May 2021 (26.05.2021) EP

(71) Applicant: **ETHERNA IMMUNOTHERAPIES NV**
[BE/BE]; Galileilaan 19, 2845 Niel (BE).

(72) Inventors: **CHALLIS, Phillip**; Galileilaan 19, 2845 Niel (BE). **BAUER, Lubos**; Galileilaan 19, 2845 Niel (BE).

(74) Agent: **ARNOLD & SIEDSMA BV**; Bezuidenhoutseweg 57, 2594 AC The Hague (NL).

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))
- of inventorship (Rule 4.17(iv))

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))

(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, IQ, IR, IS, IT, JM, 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: METHODS FOR STORING MRNA COMPOSITIONS

(57) Abstract: The present invention relates to the field of RNA-containing compositions, more in particular in the stabilization of in vitro transcribed mRNA-containing compositions for frozen storage. Specifically, the present invention provides a solution for reducing or avoiding the formation of aggregates/precipitates in such RNA-containing compositions, even when being frozen and subsequently thawed. Thereto, the present invention provides means and methods for preventing the formation of aggregates/precipitates in a frozen or thawed RNA-containing composition, by adding a metal binding chelator to said composition prior to freezing said composition.



WO 2022/248566 A1