

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 June 2023 (15.06.2023)



(10) International Publication Number
WO 2023/105227 A1

(51) International Patent Classification:

A61K 9/50 (2006.01) A61P 1/00 (2006.01)
A61K 31/00 (2006.01) A61K 9/00 (2006.01)
A61K 45/06 (2006.01)

(21) International Application Number:

PCT/GB2022/053128

(22) International Filing Date:

08 December 2022 (08.12.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2117703.5	08 December 2021 (08.12.2021)	GB
2208520.3	10 June 2022 (10.06.2022)	GB
2214380.4	30 September 2022 (30.09.2022)	GB

(71) Applicant: NANEXA AB [SE/SE]; Virdings Allé 32B, SE-754 50 Uppsala (SE).

(72) Inventors: JOHANSSON, Anders; Virdings Allé 32B, SE-75450 Uppsala (SE). ROTH, Mårten; Virdings Allé 32B, SE-75450 Uppsala (SE). HELLRUP, Joel; Virdings Allé 32B, SE-75450 Uppsala (SE). WESTBERG, David; Virdings Allé 32B, SE-75450 Uppsala (SE).

(74) Agent: MCNEENEY, Stephen Phillip; Potter Clarkson, The Belgrave Centre, Talbot Street, Nottingham NG1 5GG (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,

(54) Title: NEW INJECTABLE COMBINATION FORMULATION

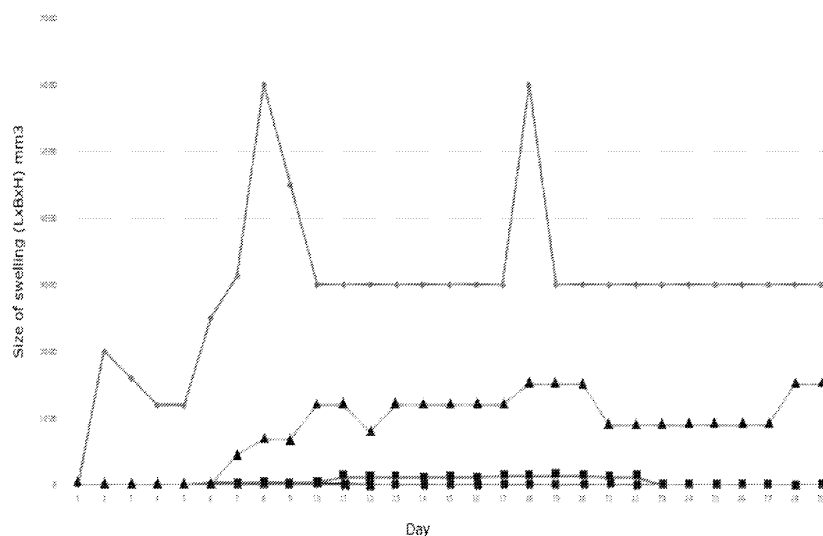


Figure 4

(57) Abstract: There is provided a pharmaceutical or veterinary formulation comprising: (a) a biologically-active agent in admixture with a pharmaceutically- or veterinarily- acceptable extended-release component; (b) an antiinflammatory agent; and (c) a pharmaceutically- or veterinarily-acceptable injectable carrier. An extended-release component may also be applied to the antiinflammatory agent. The formulation may provide for the delayed or sustained release of biologically active ingredient without producing an inflammatory response after injection, and is preferably provided in the form of: (1) a plurality of particles having a weight-, number-, or volume-based mean diameter that is between about 10 nm and about 700 µm, which particles comprise solid cores comprising a biologically-active agent coated with a coating comprising at least one coating material applied by way of a gas phase deposition technique; (2) which particles are suspended in a carrier system comprising a pharmaceutically-acceptable or veterinarily-acceptable vehicle; and (3) which

[Continued on next page]

KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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, CV, 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, 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).

Published:

— *with international search report (Art. 21(3))*

formulation further includes an antiinflammatory agent, which is optionally in the form of particles that are coated with a coating comprising at least one coating material applied by way of a gas phase deposition technique. Said coated particles are preferably synthesized via atomic layer deposition.