

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

(19) World Intellectual Property  
Organization

International Bureau

(43) International Publication Date  
30 March 2023 (30.03.2023)



(10) International Publication Number  
**WO 2023/047403 A1**

(51) International Patent Classification:

A61K 38/07 (2006.01) A61K 9/00 (2006.01)  
A61K 45/06 (2006.01) A61P 27/02 (2006.01)  
A61K 47/54 (2017.01)

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))
- with sequence listing part of description (Rule 5.2(a))

(21) International Application Number:

PCT/IL2022/051018

(22) International Filing Date:

22 September 2022 (22.09.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

63/247,404 23 September 2021 (23.09.2021) US

(71) Applicant: TARSIER PHARMA LTD. [IL/IL]; 19 Yahalom street, 3093765 Zichron Yaacov (IL).

(72) Inventors: MILMAN-LEVINSON, Zohar; 1913200 Kibbutz Tel-Yosef (IL). HAIM-LANGFORD, Daphne; 19 Yahalom Street, 3093765 Zichron Yaacov (IL). DEFERT, Olivier; 2 rue Bellot, 76600 Le Havre (FR).

(74) Agent: KESTEN, Dov et al.; GEYRA KESTEN FRYDMAN, 100 Hahashmonaim Street, P.O. Box 52630, 6713317 Tel Aviv (IL).

(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, 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,

(54) Title: OPHTHALMIC COMPOSITIONS AND METHODS OF USING SAME

(57) Abstract: Provided herein is an ophthalmic composition, comprising an aqueous solution, comprising (i) a pharmaceutically effective amount of a phosphorylcholine-tuftsins conjugate, (ii) between 0.1 and 5% weight per weight (w/w) of a viscosity enhancer, and (iii) between 0.1 and 5% w/w of a mucoadhesive polymer. Provided herein is a synergistic preservative composition comprising a phosphorylcholine-tuftsins conjugate and BAK. Furthermore, a pharmaceutical composition (e.g. ophthalmic composition) comprising an effective amount of the preservative composition is also provided. A method of using the ophthalmic composition such as for treating or preventing ocular inflammation in a subject in need thereof is also provided. Furthermore, method of using the ophthalmic composition such as for enhancing ocular bioavailability of a phosphorylcholine-tuftsins conjugate within a subject is also provided.



WO 2023/047403 A1