

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
27 April 2023 (27.04.2023)



(10) International Publication Number
WO 2023/069956 A1

(51) International Patent Classification:

A61K 8/64 (2006.01) A61K 8/06 (2006.01)

A61Q 19/00 (2006.01)

(21) International Application Number:

PCT/US2022/078314

(22) International Filing Date:

18 October 2022 (18.10.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/256,942 18 October 2021 (18.10.2021) US

63/256,896 18 October 2021 (18.10.2021) US

(71) Applicant: **EVOLVED BY NATURE, INC.** [US/US];
196 Boston Avenue, Medford, MA 02155 (US).

(72) Inventors: **ALTMAN, Gregory, H.**; 145 Grotto Avenue,
Providence, RI 02906 (US). **COSTACHE, Marius**; 161
Marrett Road, Lexington, MA 02421 (US). **GENEL, Eva**;
c/o Evolved By Nature, Inc., 196 Boston Avenue, Med-
ford, MA 02155 (US). **BOSQUES, Carlos, J.**; 198 Over-
look Road, Arlington, MA 02474 (US). **SUWANPRADID,**
Jutamas; c/o Evolved By Nature, Inc., 196 Boston Ave-
nue, Medford, MA 02155 (US). **JAIGANESH, Avinash**;
c/o Evolved By Nature, Inc., 196 Boston Avenue, Medford,
MA 02155 (US). **MUOLLO, Laura, R.**; 34 Trout Brook
Road, Dracut, MA 01828 (US).

(74) Agent: **GHIDU, Victor, P.** et al.; Morgan, Lewis & Bock-
ius LLP, 1701 Market Street, Philadelphia, PA 19103 (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, 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).

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))

(54) Title: SILK STIMULATED COLLAGEN AND CLAUDIN-I EXPRESSION, AND SILK STIMULATED ANTI-INFLAMMA-
TORY EFFECTS

(57) Abstract: The disclosure provides silk fibroin compositions for stimulating collagen
expression, claudin-I, and/or an anti-inflammatory effect in a subject, and methods of use
thereof.

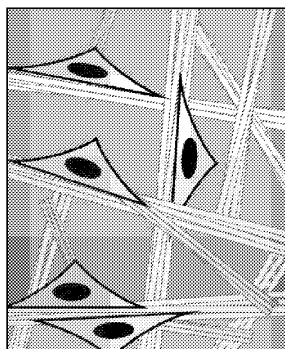


Fig. 1A



WO 2023/069956 A1