

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 May 2004 (13.05.2004)

PCT

(10) International Publication Number
WO 2004/039238 A2

(51) International Patent Classification⁷: **A61B**

(21) International Application Number:
PCT/US2003/033598

(22) International Filing Date: 22 October 2003 (22.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/421,278 25 October 2002 (25.10.2002) US
60/421,336 25 October 2002 (25.10.2002) US

(71) Applicant (for all designated States except US): **ESSENTIA BIOSYSTEMS, INC.** [US/US]; 1928B Old Middlefield Way, Mountain View, CA 94043 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CIFRA, Pamela** [PH/US]; 6915 Skyline Boulevard, Hillsborough, CA

94010 (US). **DAKE, Michael, D.** [US/US]; 665 Gerona, Stanford, CA 94305 (US). **ELKINS, Christopher** [US/US]; 1021 Woodside Avenue, Redwood City, CA 94601 (US). **WAUGH, Jacob, M.** [US/US]; 4020 El Camino Real #2204, Palo Alto, CA 94306 (US).

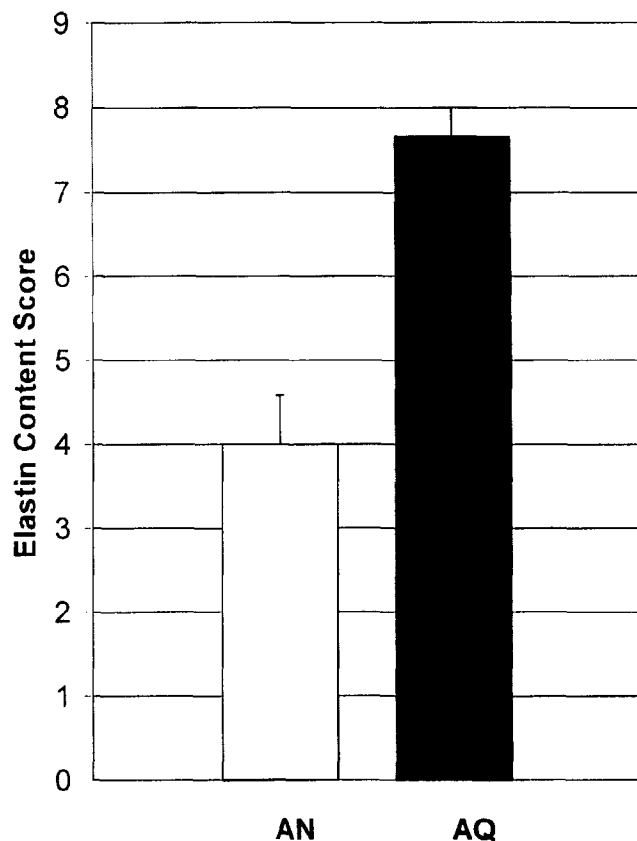
(74) Agents: **ACKERMAN, Joel, G.** et al.; Townsend and Townsend and Crew LLP, Two Embarcadero Center, 8th Floor, San Francisco, CA 94111 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: MODULATION OF ZINC LEVELS TO IMPROVE TISSUE PROPERTIES



(AN - control; AQ - containing zinc)

(57) Abstract: Methods of altering properties of tissues, by providing an effective modifying amount of zinc, which may be in the form of zinc ions. This is accomplished through the use of topical compositions containing one or more zinc-containing components such as salts and/or other zinc compounds or complexes, particularly zinc acetate. Altering properties of tissues includes increasing or decreasing fatty tissue, increasing or decreasing epidermal thickness, increasing elastin content, and preventing or treating gum regression or atrophy. Also disclosed is the provision of a contact lens coated with a zinc-containing material, to improve vision by increasing elastin content of the lens of the eye through release of zinc ions.

WO 2004/039238 A2



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, 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)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG,*

ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*
- *of inventorship (Rule 4.17(iv)) for US only*

Published:

- *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.