



(51) International Patent Classification:

C12N 5/077 (2010.01) *C12N 5/10* (2006.01)
A23L 13/00 (2016.01) *A23L 13/60* (2016.01)

(21) International Application Number:

PCT/US2022/082482

(22) International Filing Date:

28 December 2022 (28.12.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

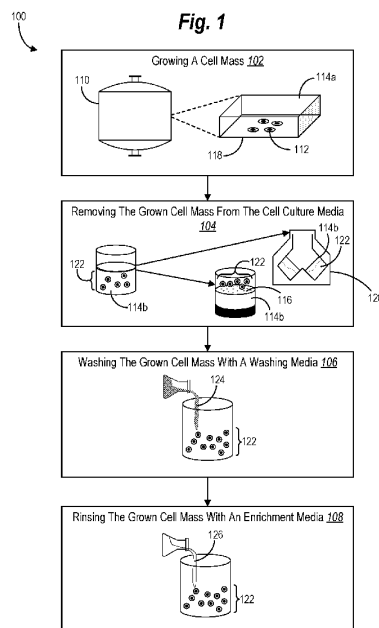
63/294,700 29 December 2021 (29.12.2021) US
63/294,703 29 December 2021 (29.12.2021) US
18/146,541 27 December 2022 (27.12.2022) US

(71) Applicant: **UPSIDE FOODS, INC.** [US/US]; 804 Heinz Ave, Berkeley, California 94710 (US).

(72) Inventors: **MÜLLER-AUFFERMANN, Konrad**; 804 Heinz Ave, Berkeley, California 94710 (US). **HSU, Stephen K.**; 804 Heinz Ave, Berkeley, California 94710 (US). **JOHNSON, Kalle Lukyan**; 804 Heinz Ave, Berkeley, California 94710 (US). **LEUNG, Matthew**; 804 Heinz Ave, Berkeley, California 94710 (US). **LAKKYREDDY, Jayanthi**; 804 Heinz Ave, Berkeley, California 94710 (US). **REASE, Morgan Laurence**; 804 Heinz Ave, Berkeley, California 94710 (US). **JOSLIN, Jessica**; 804 Heinz Ave, Berkeley, California 94710 (US).

(74) Agent: **CHEN, Victoria** et al.; KELLER PREECE PLLC, 1010 North 500 East, Suite 210, North Salt Lake, Utah 84054 (US).

(54) Title: METHOD FOR WASHING AND FINISHING A GROWN CELL MASS



(57) **Abstract:** This disclosure relates to methods of washing cells from a grown cell mass to remove cell culture media and enriching the cells with a finishing media. The disclosed method includes growing a cell mass in cell culture media and then collecting and washing the grown cell mass with a series of wash buffers or a gradient wash buffer that changes over time. While the cell culture media contains nutrients and components beneficial for cell growth, cells grown in cell culture media often have off flavors, off aromas, poor color, poor salt/minerality compositions, and other shortcomings. Accordingly, the disclosed method comprises removing cell culture media remnants from a grown cell mass using a single or a series of wash media. The grown cell mass is further washed with a finishing or enrichment buffer to further improve sensory aspects and nutritional composition of the grown cell mass.

[Continued on next page]

(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, SC, 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))*
- *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))*

(88) Date of publication of the international search report:

12 October 2023 (12.10.2023)