



(51) International Patent Classification:
A61K 36/185 (2006.01)

(21) International Application Number:
PCT/US2024/016043

(22) International Filing Date:
15 February 2024 (15.02.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/485,175 15 February 2023 (15.02.2023) US
63/485,192 15 February 2023 (15.02.2023) US

(71) Applicant (for all designated States except CN): **ACADEMIA SINICA**; 128, Academia Road, Section 2, Nankang, Taipei 115 (TW).

(71) Applicant (for CN only): **CHOU, Mei-Yin** [US/US]; 6 Bohler Mews NW, Atlanta, GA 30327 (US).

(72) Inventors: **LIN, Yu-Ling**; No. 23, Aly. 90, Ln. 301, Sec. 2, Dongmen Rd., East Dist., Tainan City, 701025 (TW). **SHYUR, Lie-Fen**; Fl. 5, No. 30, Ln. 3, Sec. 1, Jojung Street, Nankang, Taipei 115 (TW). **LIN, Han-Huei**; 3F., No. 49,

Renmei St., Sanchong Dist., New Taipei City 241 (TW). **WU, Yi-Shin**; No. 25-1, E. 3rd St., Lunnan Vil., Sihui Township, Yunlin County 654026 (TW). **CHANG, Meng-Ting**; Rm. 5, 11F., No. 21, Ln. 53, Ziqiang 3rd Rd., Lingya Dist., Kaohsiung City 802751 (TW).

(74) Agent: **MASS, Clifford**; Ladas & Parry LLP, 1040 Avenue of the Americas, New York, NY 10018 (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, MU, 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,

(54) Title: USE OF CRASSOCEPHALUM RABENS EXTRACT IN INDUCING HUMORAL IMMUNE RESPONSE

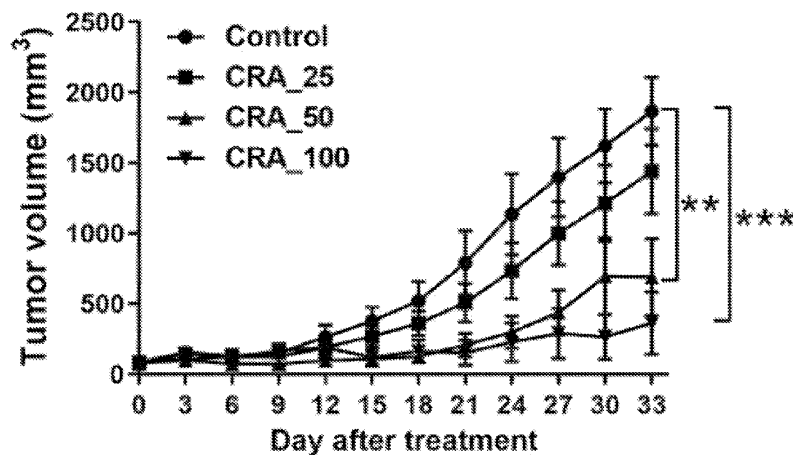


FIG. 1A

(57) Abstract: The present disclosure provides a method for inducing humoral immune response in a subject in need, comprising administering to said subject an effective amount of *Crassocephalum rabens* plant or extract and optionally a pharmaceutically acceptable carrier or excipient. The present disclosure also provides an adjuvant comprising an effective amount of *Crassocephalum rabens* plant or extract. The present disclosure also provides an immunogenic composition and a method for enhancing humoral immune response.

[Continued on next page]

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:

- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*
- *with sequence listing part of description (Rule 5.2(a))*