



(51) International Patent Classification:

A61K 31/715 (2006.01) A61P 37/06 (2006.01)
A61K 31/702 (2006.01)

(21) International Application Number:

PCT/US2021/043339

(22) International Filing Date:

27 July 2021 (27.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/057,262 27 July 2020 (27.07.2020) US

(71) Applicant: **EVOLVE BIOSYSTEMS, INC.** [US/US];
2121 2ND Street, Suite B107, Davis, California 95618
(US).

(72) Inventors; and

(71) Applicants: **HENRICK, Bethany** [US/US]; c/o EVOLVE
BIOSYSTEMS, INC., 2121 2nd Street, Suite B107, Davis,
California 95618 (US). **KYLE, David** [US/US]; c/o
EVOLVE BIOSYSTEMS, INC., 2121 2nd Street, Suite
B107, Davis, California 95618 (US).

(74) Agent: **POSORSKE, Laurence H.** et al.; 1717 K Street,
NW, Washington, 20006 (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, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, 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,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(54) Title: MICROBIOME MEDIATED INDUCTION OF IMMUNE TOLERANCE AND RESOLUTION OF INFLAMMATION

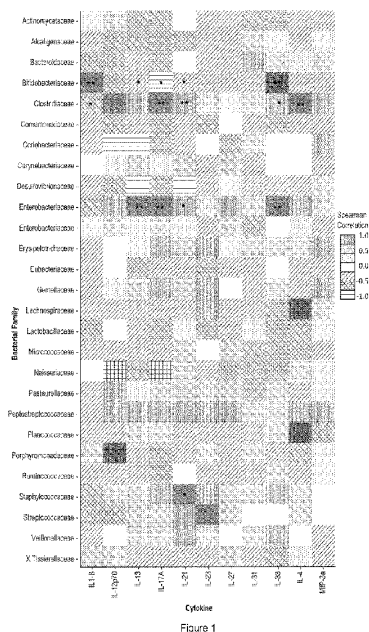


Figure 1

(57) Abstract: The invention described herein relates generally to methods and compositions for administration to modulate the microbiome for the express purpose of increasing host interferon beta (IPNβ) in mammals of target populations that are at risk for or are being treated for certain inflammatory conditions including infections, viral infection, autoimmune conditions, and recovery from sequelae associated with acute inflammatory insults. In particular, the invention provides a method of elevating the level of IPNβ in the gut of a mammal by providing the mammal with a live bacterium and a prebiotic that the live bacterium is known to consume. Further, the invention described herein may relate to the administration of compositions found to increase the endogenous production of IPNβ in the target mammal.

[Continued on next page]

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:

24 March 2022 (24.03.2022)