



- (51) **International Patent Classification:**
C12N 15/113 (2010.01) *A61K 31/7088* (2006.01)
- (21) **International Application Number:**
PCT/US2021/044544
- (22) **International Filing Date:**
04 August 2021 (04.08.2021)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/061,045 04 August 2020 (04.08.2020) US
63/082,762 24 September 2020 (24.09.2020) US
- (71) **Applicant: DICERNA PHARMACEUTICALS INC.**
[US/US]; 75 Hayden Avenue, Lexington, Massachusetts 02421 (US).
- (72) **Inventors: ABRAMS, Marc;** 75 Hayden Avenue, Lexington, Massachusetts 02421 (US). **WONDIMU, Elisabeth;** 75 Hayden Avenue, Lexington, Massachusetts 02421 (US). **BASURAY, Soumik;** 75 Hayden Avenue, Lexington, Massachusetts 02421 (US).
- (74) **Agent: MANDRAGOURAS, Amy et al.;** 1299 Pennsylvania Ave., NW Suite 700, Washington, District of Columbia 20004 (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,

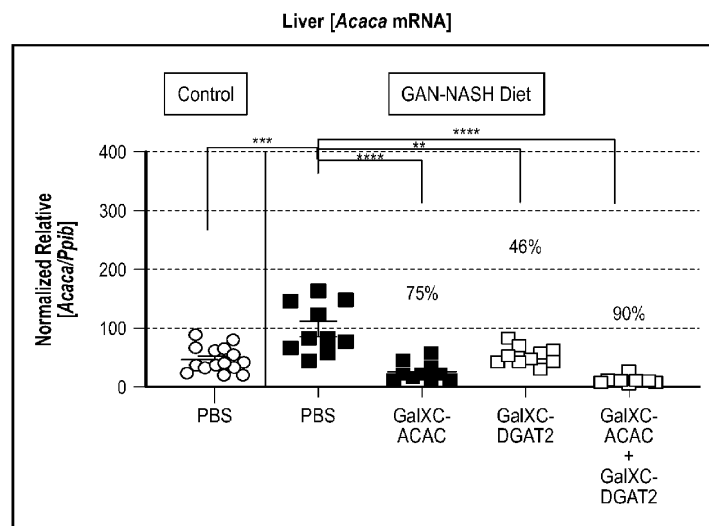
(54) **Title:** COMPOSITIONS AND METHODS FOR THE TREATMENT OF METABOLIC SYNDROME

FIG. 16A

(57) **Abstract:** Disclosed are methods for treating, preventing and alleviating obesity, fatty liver syndrome, diabetes, liver fibrosis, NASH or other more metabolic syndrome conditions or complications comprising administering an effective amount of oligonucleotides designed to prevent, limit or modulate the expression of mRNA molecules, preferably ACC and/or DGAT2.

[Continued on next page]

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))*

Published:

- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*