

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
24 September 2020 (24.09.2020)



(10) International Publication Number
WO 2020/188074 A3

(51) International Patent Classification:

C12N 9/10 (2006.01) C12N 9/02 (2006.01)

C12N 9/04 (2006.01)

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).

(21) International Application Number:

PCT/EP2020/057741

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))

(22) International Filing Date:

20 March 2020 (20.03.2020)

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))
— with sequence listing part of description (Rule 5.2(a))

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

19163958.2 20 March 2019 (20.03.2019) EP

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

29 October 2020 (29.10.2020)

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(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, 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,

(54) Title: FATTY ACID SYNTHASE, INHIBITORS AND MODIFICATIONS THEREOF AND ITS USE

(57) Abstract: In a first aspect, the present invention relates to new recombinant polypeptides derived from the newly identified gamma subunit of the fatty acid synthase protein complex. In addition, a fatty acid synthase protein complex comprising these new recombinant polypeptides are disclosed as well as nucleic acid molecules encoding these polypeptides. Further, a host cells containing the nucleic acid molecule encoding the polypeptides according to the present invention or expressing the polypeptide according to the present invention are described. In addition, an isolated fatty acid synthase protein complex is disclosed containing the newly identified gamma subunit thereof. Moreover, methods for determining the suitability of candidate compounds capable of inhibiting either the ketoreductase, enoylreductase or malonyl/palmitoyl transferase present in the FAS protein complex and methods for designing inhibitors of said enzymes are disclosed. Finally, the present invention relates to the inhibitors and their use in medicinal applications.



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