



(43) International Publication Date
26 November 2015 (26.11.2015)

(10) International Publication Number
WO 2015/176922 A1

(51) International Patent Classification:

A61K 8/44 (2006.01) *C12N 9/10* (2006.01)
C12N 9/00 (2006.01) *C12P 13/04* (2006.01)

(21) International Application Number:

PCT/EP2015/059128

(22) International Filing Date:

28 April 2015 (28.04.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

14169650.0 23 May 2014 (23.05.2014) EP
14182110.8 25 August 2014 (25.08.2014) EP

(71) Applicant (for all designated States except US): **EVONIK INDUSTRIES AG** [DE/DE]; Rellinghauser Straße 1-11, 45128 Essen (DE).

(72) Inventors; and

(71) Applicants (for US only): **REINECKE, Liv** [DE/DE]; Heidehang 9, 45134 Essen (DE). **SCHAFFER, Steffen** [DE/DE]; Antoniusstr. 19, 45699 Herten (DE). **GRAMMANN, Katrin** [DE/DE]; Denningsgraben 16, 45739 Oer-Erkenschwick (DE). **OLFERT, Maik** [DE/DE]; Dortmund Str. 58, 45665 Recklinghausen (DE). **DECKER, Nicole** [DE/DE]; Schubertstraße 21, 45657 Recklinghausen (DE). **ARTO, Nils** [DE/DE]; Gendorferstr. 15,

45772 Marl (DE). **HENNEMANN, Hans-Georg** [DE/DE]; Sauerbruchstr. 8, 50181 Bedburg (DE).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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).

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: BIOSYNTHETIC PRODUCTION OF ACYL AMINO ACIDS

(57) Abstract: The present invention relates to a cell for producing acyl glycinate wherein the cell is genetically modified to comprise -at least a first genetic mutation that increases the expression relative to the wild type cell of an amino acid-N-acyl-transferase, -at least a second genetic mutation that increases the expression relative to the wild type cell of an acyl-CoA synthetase, and -at least a third genetic mutation that decreases the expression relative to the wild type cell of at least one enzyme selected from the group consisting of an enzyme of the glycine cleavage system, glycine hydroxymethyltransferase (GlyA) and threoninealdolase (LtaE).



WO 2015/176922 A1