



(51) International Patent Classification:

A61K 38/51 (2006.01) A61P 3/00 (2006.01)
A61K 45/00 (2006.01) A61P 43/00 (2006.01)

(21) International Application Number:

PCT/US2018/017773

(22) International Filing Date:

12 February 2018 (12.02.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/458,232 13 February 2017 (13.02.2017) US
62/565,555 29 September 2017 (29.09.2017) US

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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,

(54) Title: ENGINEERED PHENYLALANINE AMMONIA LYASE POLYPEPTIDES

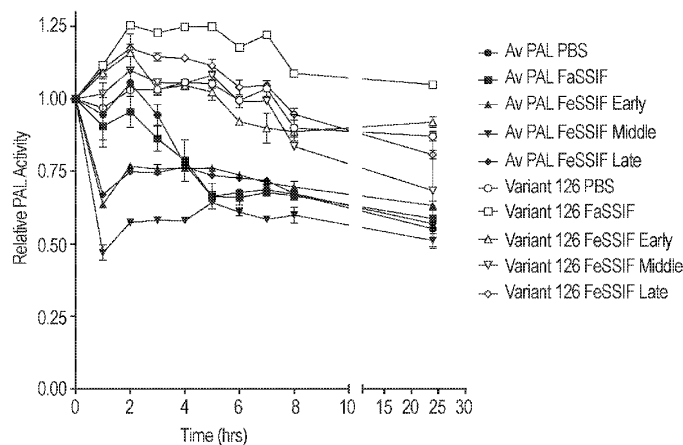


FIG. 1

(57) Abstract: The present invention provides engineered phenylalanine ammonia lyase (PAL) polypeptides and compositions thereof, as well as polynucleotides encoding the engineered phenylalanine ammonia lyase (PAL) polypeptides. In some embodiments, the engineered PAL polypeptides are optimized to provide enhanced catalytic activity, as well as reduced sensitivity to proteolysis and increased tolerance to storage at elevated temperatures. In some embodiments, the engineered PAL polypeptides contain fewer phenylalanine residues than wild-type PAL polypeptides. The present invention also provides methods for the use of the compositions comprising the engineered PAL polypeptides for therapeutic and industrial purposes.

[Continued on next page]

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))*
- *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))*