

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
22 July 2021 (22.07.2021)



(10) International Publication Number
WO 2021/144342 A1

(51) International Patent Classification:
C07K 14/77 (2006.01) C12P 21/00 (2006.01)
C12N 15/00 (2006.01)

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:
PCT/EP2021/050650

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))

(22) International Filing Date:
14 January 2021 (14.01.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20151815.6 14 January 2020 (14.01.2020) EP

(71) Applicant: **THE PROTEIN BREWERY B.V.** [NL/NL];
Goeseelsstraat 10, 4817 MV Breda (NL).

(72) Inventors: **ARNOUTS, Joyce Josephine Elisabeth**; Pas-
toor de Bakkerstraat 32, 4885 AM Achtmaal (NL).
VÁZQUEZ VITALI, María; Verwersdijk 61D, 2611 NE
Delft (NL). **PARENICOVÁ, Lucie**; Böttgerwater 44, 2497
ZJ Den Haag (NL). **LAURET, Niels**; Wilgenhof 16, 4841
RB Prinsenbeek (NL). **KLEINE HAAR, Maloe**; Oude
Haven 82E, 6511 XH Nijmegen (NL). **REIJNGOUD, Jos**;
Prins Bernhardlaan 124, 2405 VT Alphen aan den Rijn
(NL). **MARSDEN, Stefan Robert**; Afrikalaan 62, 2622 LR
Delft (NL). **DE LAAT, Wilhelmus Theodorus Antonius**
Maria; Loopschansstraat 54, 4817 KW Breda (NL).

(74) Agent: **NEDERLANDSCH OCTROOIBUREAU**;
P.O.Box 29720, 2502 LS The Hague (NL).

(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: EXPRESSION OF OVALBUMIN AND ITS NATURAL VARIANTS

(57) Abstract: The present invention relates to the animal-free production of animal-derived proteins for human consumption by ex-
pression of such proteins, e.g. ovalbumin, in fungal cells. The invention relates to fungal cells modified for the production of animal-de-
rived proteins, such as ovalbumin and to methods wherein these cells are used for the production of animal-derived proteins.

WO 2021/144342 A1