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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/104272 A1

(51) International Patent Classification[7]: C07K 14/315, A61K 39/385, C12N 5/10, 15/62, 15/63, A61K 38/16

(21) International Application Number: PCT/EP03/06096

(22) International Filing Date: 6 June 2003 (06.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0213365.0 11 June 2002 (11.06.2002) GB
0300914.9 15 January 2003 (15.01.2003) GB

(71) Applicants *(for all designated States except US)*: **GLAXOSMITHKLINE BIOLOGICALS S.A.** [BE/BE]; Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **GLAXO GROUP LIMITED** [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 ONN (GB).

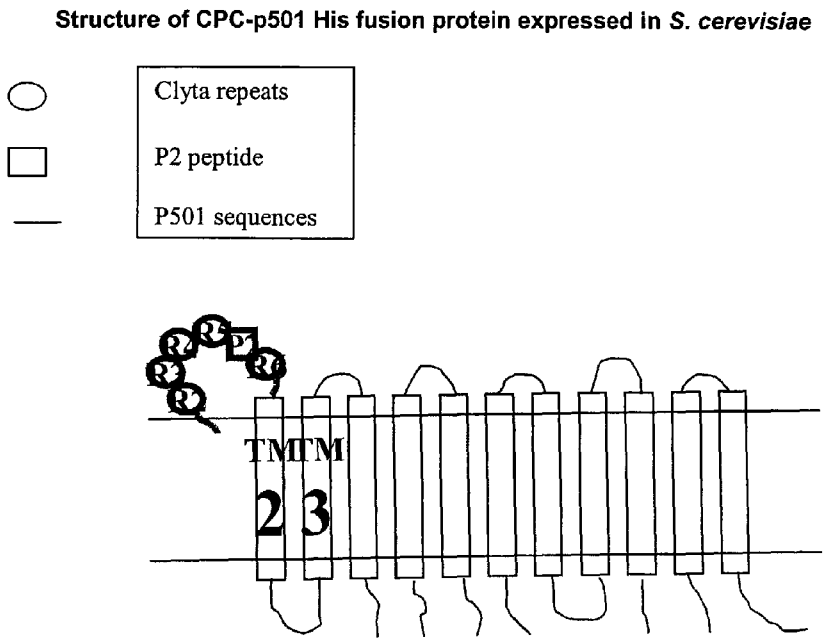
(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **CABEZON SILIVA, Teresa, Elisa, Virginia** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **ELLIS, Jonathan, H.** [GB/GB]; GlaxoSmithKline, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). **GERARD, Catherine, Marie, Ghislaine** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **HAMBLIN, Paul, A.** [GB/GB]; GlaxoSmithKline, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY (GB). **PALMANTIER, Remi, M.** [FR/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **VINALS Y DE BASSOLS, Carlota** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE).

(74) Agent: **DALTON, Marcus, Jonathan, William**; GlaxoSmithKline, CN925.1, 980 Great West Road, Brentford, Middlesex TW8 9GS (GB).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

[Continued on next page]

(54) Title: IMMUNOGENIC COMPOSITIONS



(57) Abstract: The present invention relates fusion partners which act as immunological fusion partners, as expression enhancers, and preferably to fusion partners having both functions. In particular the fusion partners contain a so-called choline binding domain, for example fusions comprising LytA from Streptococcus pneumoniae, or the pneumococcal phage CP1 lysozyme (CPL1) wherein the choline binding domain is modified to include a heterologous T-helper epitope, and are fused to antigens, particularly poorly immunogenic antigens such as self-antigens, eg tumour specific or tissue specific antigens. The invention also relates to fusion proteins containing them, to their manufacture, to their use in immunogenic compositions and vaccines and to their use in medicines.

WO 03/104272 A1

MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.