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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 August 2009 (27.08.2009)

PCT

(10) International Publication Number
WO 2009/104074 A2

(51) International Patent Classification:
A61K 39/02 (2006.01) *A61K 39/385* (2006.01)

(21) International Application Number:
PCT/IB2009/000287

(22) International Filing Date:
19 February 2009 (19.02.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/064,163	20 February 2008 (20.02.2008)	US
61/071,545	5 May 2008 (05.05.2008)	US
61/129,480	30 June 2008 (30.06.2008)	US
61/129,852	24 July 2008 (24.07.2008)	US
61/136,687	25 September 2008 (25.09.2008)	US

(71) Applicant *(for all designated States except US)*: **GLYCOVAXYN AG** [CH/CH]; Grabenstrasse 3, CH-8952 Schlieren (CH).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **FERNANDEZ, Fabiana** [AR/CH]; Bauherrenstrasse 48, CH-8049 Zurich (CH). **WETTER, Michael** [CH/CH]; Zentralstrasse 118, CH-8003 Zurich (CH). **KOWARIK, Michael** [CH/CH]; Goldbrunnenstrasse 57, CH-8055 Zurich (CH). **WACKER, Michael** [CH/CH]; Bauherrenstrasse 48, CH-8049 Zürich (CH).

(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, BR, BW, BY, BZ, CA, CH, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

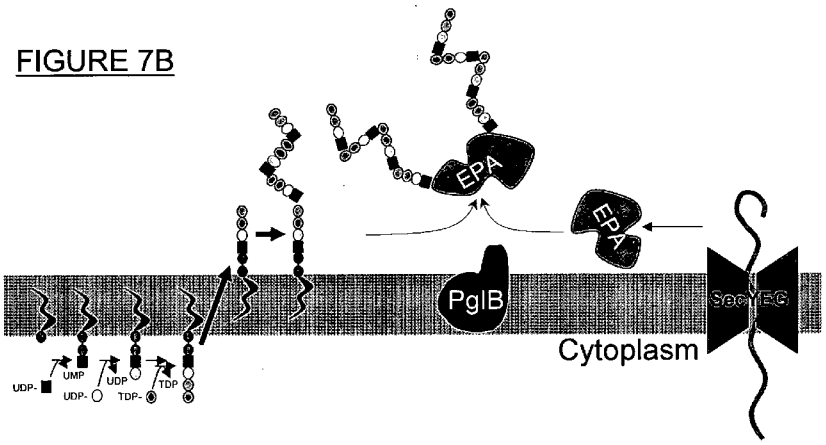
Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

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

(54) **Title**: BIOCONJUGATES MADE FROM RECOMBINANT N-GLYCOSYLATED PROTEINS FROM PROCARYOTIC CELLS

FIGURE 7B



(57) **Abstract**: The present invention is directed to a bioconjugate vaccine, such as an O1-bioconjugate vaccine, comprising: a protein carrier comprising a protein carrier containing at least one consensus sequence, D/E - X - N - Z - S/T, wherein X and Z may be any natural amino acid except proline; at least one antigenic polysaccharide from at least one pathogenic bacterium, linked to the protein carrier; and, optionally, an adjuvant. In another aspect, the present invention is directed to a method of producing an O1-bioconjugate in a bioreactor comprising a number steps.

WO 2009/104074 A2