CLAIMS

1. Use of a Globo H-KLH (Keyhole limpet hemocyanin) glycoconjugate vaccine in the manufacture of a medicament for the treatment of a tumor in a human subject, wherein the Globo H-KLH glycoconjugate vaccine is to be administered to the human subject at least six times in a pharmaceutically effective amount of less than 100 μg;

wherein the Globo H-KLH glycoconjugate vaccine is OBI-822 and is to be administered together with an OBI-821 adjuvant; and

wherein the tumor is breast cancer or ovarian cancer.

2. The use of the Globo H-KLH glycoconjugate vaccine of Claim 1, wherein the Globo H-KLH glycoconjugate vaccine is to be administered as a pharmaceutical composition.

3. The use of the Globo H-KLH glycoconjugate vaccine of Claim 2, wherein the pharmaceutical composition further comprises a pharmaceutically acceptable excipient.

4. The use of the Globo H-KLH glycoconjugate vaccine according to any one of claims 1 to 3, wherein the Globo H-KLH glycoconjugate vaccine induces an immunogenic production of monoclonal antibody directed to Globo H antigen, and wherein the antibody produced is an IgG, an IgM, or both.

5. The use of the Globo H-KLH glycoconjugate vaccine according to any one of claims 1 to 4, wherein the tumor is metastatic or nonmetastatic.

6. The use of the Globo H-KLH glycoconjugate vaccine according to any one of claims 1 to 5, wherein the Globo H-KLH glycoconjugate vaccine is to be administered in combination with one or more anti-proliferative agents, and wherein the antiproliferative agent is selected from cyclophosphamide, opiate, granulocyte colony-stimulating factor (GCSF), estrogen inhibitors, aromatase inhibitors, pituitary downregulators, tamoxifen selective estrogen-receptor modulator, rolaxifene, estrogen receptor down-regulator, anticoagulant, enzyme, hematopoietic growth factor, anti-neoplastic agent, antimetabolites, miscellaneous cytotoxic agents, vinca alkaloid, epipodophyllotoxins, alkylating agents, taxanes, antitumor antibiotics, camptothecins, nitrosoureas, HERI/EGFR tyrosine kinase inhibitor, VEGF protein inhibitor, HER-2/ErbB2 inhibitor, interferon, interleukin, monoclonal antibody, glucocorticoid steroid, erlotinib, docetaxel, gemcitabine, cisplatin; carboplatin; paclitaxel, trastuzumab, temozolomide, tamoxifen, doxorubicin, oxaliplatin, bortezomib, sutent, letrozole, imatinib mesylate, MEK inhibitor, fulvestrant, leucovorin (folinic acid); rapamycin, lapatinib, lonafanib, sorafenib, gefitinib, irinotecan, tipifanib, Cremophor-free, paclitaxel, vandetanib,

chloranmbucil, temsirolimus, pazopanib, canfosfamide, thiotepa, cyclosphosphamide, 5-fluorouracil (5-FU), vinorelbine, novantrone, teniposide, edatrexate, daunomycin, aminopterin, capecitabine, ibandronate, topoisomerase inhibitor RFS 2000, difluoromethylomithine (DMFO), tamoxifen, raloxifene, droloxifene, 4-hydroxytamoxifen, trioxifene, keoxifene, onapristone, toremifine citrate, 4(5)-imidazo les, aminoglutethimide, megestrol acetate, exemestane, formestanie, fadrozole, vorozole, letrozole, anastrozole, flutamide, nilutamide, bicalutamide, leuprolide, goserelin, troxacitabine (a-1,3- dioxolane nucleoside cytosine analog), lipid kinase inhibitor, oblimersen, angiozyme, allovectin, leuvectin, vaxid, aldesleukin, lurtotecan, abarelix, bevacizumab, alemtuzumab, bevacizumab, cetuximab, panitumumab, rituximab, pertuzumab, trastuzumab, tositumomab, gemtuzumab or ozogamicin.

7. The use of the Globo H-KLH glycoconjugate vaccine according to any one of claims 1 to 6, wherein the Globo H-KLH glycoconjugate vaccine is to be administered by intramuscular injection, subcutaneous injection, intravenous injection, intraperitoneal injection, intra-arterial injection, intrasynovial injection, intrathecal injection, epidural injection or intra-pleural injection, and wherein the vaccine is for administration intermittently at a time interval of one week to 41 weeks.

8. The use of the Globo H-KLH glycoconjugate vaccine according to any one of claims 1to 7, wherein the treatment of a human subject is performed for improving survival of the human subject by modulating Globo series antigens interaction, wherein the survival comprises overall survival (OS) and/or progression free survival (PFS).

10. The use of the Globo H-KLH glycoconjugate vaccine according to claim 9, wherein the modulation of Globo series antigens interaction further comprises one or more of the following:

(a) Induction of Antibody-Dependent Cellular Cytotoxicity (ADCC) and Complement-Dependent Cytotoxicity (CDC) for Tumor Killing;

(b) Induction of anti-Globo series antigens IgM/IgG immune response to elicit Antibody-Dependent Cellular Cytotoxicity (ADCC) and Complement-Dependent Cytotoxicity (CDC) mediated tumor cell killing;

(c) Induction of anti-Globo series antigens antibodies trap Globo series antigens-ceramide shedding from tumor cells to block translin-associated factor X (TRAX)-dependent angiogenesis;

(d) Induction of anti-Globo series antigens antibodies to block Globo series antigens-ceramide induced Notch I-dependent immunosuppression and thereby enhancing T cell proliferation and cytokine production;

(e) Induction of anti-Globo series antigens antibodies to lead to apoptosis;

(f) Inhibition of Globo series antigens induced angiogenesis; or

(g) OBI-822 vaccination induced apoptosis; and

wherein the Globo series antigens is Globo H, Stage-specific embryonic antigen 3 (SSEA-3) or Stage-specific embryonic antigen 4 (SSEA-4).