Claims

1. A composition comprising a plurality of Globo H moieties covalently linked to one to twenty keyhole limpet hemocyanin (KLH) moiety(ies), wherein the Globo H moieties are covalently bound to the KLH moieties on one or more amino acid residues; and an α-galactosyl-ceramide (α-GalCer) adjuvant; wherein Globo H moiety covalently linked to a KLH moiety subunit is linked by a 4-(4-N-maleimidomethyl) cyclohexane-1-carboxyl hydrazide (MMCCH) linkage; and wherein the composition has an epitope/carrier ratio ranging from 800 to 3200.

2. The composition of claim 1, wherein the amino acid residues are basic, neutral, hydrophobic amino acid residues and/or a combination thereof.

3. The composition of claim 1 or 2, wherein the amino acid residues are lysine, arginine, histidine, asparagine, proline, glutamine and/or a combination thereof.

4. The composition of any of claims 1 to 3, wherein the KLH moiety is a monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer, octamer, nonamer, decamer, undecamer, dodecamer, tridecamer, tetradecamer, pentadecamer, hexadecamer, heptadecamer, octadecamer, nonadecamer, or didecamer.

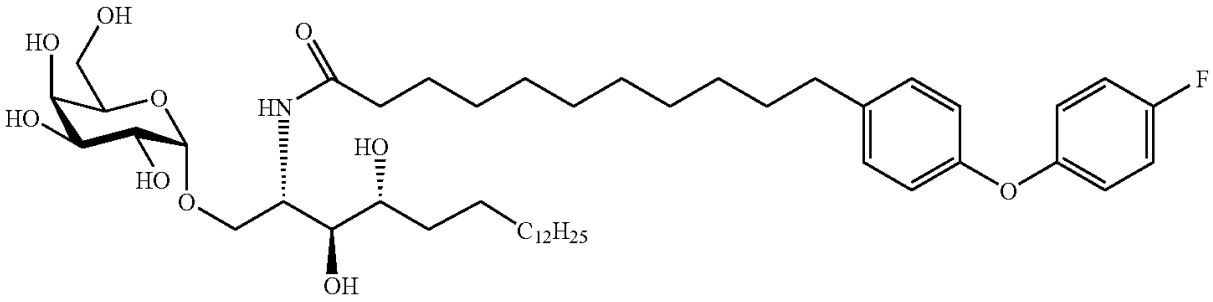
5. The composition of any of claims 1 to 4, wherein the Globo H moiety comprises (Fucα1→2 Galβ1→3 GalNAcβ1→3 Galα1→4 Galβ1→4 Glc).

6. The composition of any of claims 1 to 5, wherein the KLH moiety subunit is at least 80% identical to SEQ ID NO. 1 or SEQ ID NO. 2.

7. Use of a composition of any of the preceding claims in the manufacture of a medicament for the treatment of cancer in a patient, wherein the cancer is a Globo H expressing cancer.

8. The use according to claim 7, wherein the cancer is breast cancer, lung cancer, liver cancer, buccal cancer, stomach cancer, colon cancer, nasopharyngeal cancer, dermal cancer, renal cancer, brain tumor, prostate cancer, ovarian cancer, cervical cancer, endometrial cancer, intestinal cancer, pancreatic cancer or bladder cancer.

9. The composition of claim 1, wherein the α-GalCer adjuvant has the following structure:



10. Use of the composition of any of claims 1 to 6 and 9 in the manufacture of a medicament for the treatment of cancer, wherein the medicament is for inducing antibodies in a subject, and wherein an effective amount of the composition is to be administered to the subject, and the cancer is a Globo H expressing cancer.