CLAIMS

1. A pharmaceutical composition for immunomodulation of the immune response in cancer patients comprising nano-particles formed by hydrophobic conjugation of the outer membrane protein complex (OMPC) of the *Neisseria meningitidis* bacterium to the GM3 ganglioside, wherein the protein-ganglioside conjugation ratio ranges from 1.5: 0.9 to 10: 1.
2. The composition of claim 1 characterized by a monomodal distribution of volume in a range from 15 to 25 nm particle size, polydispersity index of 0.230, negative Z potential with nominal value in the range from 25 to 45 mV.
3. Use of the pharmaceutical composition of claims 1-2 in the manufacture of a medicament for the treatment of cancer of with high-level myeloid-derived suppressor cells (MDSCs).
4. Use of the pharmaceutical composition of claims 1-2 as an immunomodulator of Myeloid-derived suppressor cells (MDSCs) in patients with cancer with high-level of such MDSCs.
5. Use of the pharmaceutical composition according to claims 1-2 in the manufacture of a medicament for treating a subject in need thereof wherein the medicament is to be administered by subcutaneous with a weekly frequency for at least a total of four doses and subsequently fortnightly or monthly in maintenance doses for at least six months.

6. A method of selecting patients with cancer as candidates for receiving treatment with the pharmaceutical composition of claims 1-2 which involves:

- extraction of a sample of blood and/or tumor tissue from the patient and
- determination of the levels of MDSCs in said sample of blood and/or tumor tissue, wherein the patients are selected if:
  - the frequency or absolute number of MDSCs in blood is high or
  - their degree of infiltration of MDSCs are positive.