Claims

1. Use of a molecular complex in the manufacture of an immunostimulatory medicament for treating cancer or an infectious disease, wherein the molecular complex consists of at least one ligand of heparan sulfate expressed at the surface of antigen presenting cells or NK or NKT cells (first ligand), and at least one ligand of a surface molecule of antigen-presenting cells or of NK or NKT cells other than a sulfated sugar of the glycosaminoglycan family (second ligand), wherein the ligands are bonded to one another, and the complex is free of a specific antigen of the disease to be treated.

2. The use of claim 1, wherein the first ligand is a heparan sulfate-binding peptide selected from the group consisting of: a peptide derived from the HIV Tat protein, comprising at least the basic region Tat49-57 (SEQ ID NO: 3) such as the peptides Tat49-57 (SEQ ID NO: 3), Tat37-57 (SEQ ID NO: 8) and Tat22-57$C_{(22\text{-}37)S}$ (SEQ ID NO:9); an R7 to R11 polyarginine peptide; and a peptide comprising the R domain of the diphtheria toxin (SEQ ID NO: 5) or at least the fragment DT453-467 (SEQ ID NO 7) of said domain, comprising the heparan sulfate binding region.

3. The use of claim 1 or claim 2, wherein the second ligand targets a surface molecule of antigen-presenting cells selected from the group consisting of: C-type lectin receptors, membrane-bound immunoglobulins, receptors for the constant region of immunoglobulins, and immune checkpoint molecules and ligands thereof.

4. The use of any one of claims 1 to 3, wherein the second ligand is selected from the group consisting of: (i) antibodies directed against said surface molecules of antigen-presenting cells or of NK or NKT cells and fragments thereof containing at least the paratope; (ii) immunoglobulins, preferably IgG, and fragments thereof comprising at least the Fc region; and (iii) proteins and protein fragments which bind to the Fc and/or Fab region of the antibodies, particularly protein A of *S. aureus*, the BB fragment thereof (SEQ ID NO: 1) and the ZZ derivative thereof (SEQ ID NO: 2).

5. The use of any one of claims 1 to 4, wherein the molecular complex is in the form of oligomers or a mixture of monomers and oligomers.

6. The use of any one of claims 1 to 5, wherein the molecular complex consists of a fusion protein between the first and the second ligand.

7. The use of claim 6, wherein the molecular complex consists of a fusion protein comprising a first ligand selected from: Tat49-57 (SEQ ID NO: 3), Tat37-57 (SEQ ID NO: 8), Tat22-57C(22-37)S (SEQ ID NO 9), the R domain of the diphtheria toxin (SEQ ID NO:

5) or the fragment DT453-467 (SEQ ID NO 7) and a second ligand selected from: the BB fragment of the protein A (SEQ ID NO: 1) or the ZZ derivative thereof (SEQ ID NO: 2).

8. The use of any one of claims 1 to 5, wherein the second ligand is an antibody or an antibody fragment and the first ligand forms a fusion protein with an immunoglobulin-binding element, preferably the protein A of *S. aureus*, the BB fragment thereof (SEQ ID NO: 1) or the ZZ derivative thereof (SEQ ID NO: 2).

9. The use of claim 8, wherein said fusion protein comprises a first ligand selected from Tat49-57 (SEQ ID NO: 3), Tat37-57 (SEQ ID NO: 8), Tat22-57C(22-37)S (SEQ ID NO 9), the R domain of the diphtheria toxin (SEQ ID NO: 5) or the fragment DT453-467 (SEQ ID NO 7) and an immunoglobulin-binding element selected from the BB fragment of the protein A (SEQ ID NO: 1) or the ZZ derivative thereof (SEQ ID NO: 2).

10. The use of claim 9, wherein the immunoglobulin-binding element is the BB fragment of the protein A (SEQ ID NO: 1) and said fusion protein is complexed to the second ligand which consists of a whole immunoglobulin.

11. The use of claim 8, wherein said fusion protein is complexed to the second ligand which is selected from an anti-RFcgamma I, II and/or III, anti-DEC-205, anti-DC-SIGN, anti-CD74, anti-CD275, anti-CD56, anti-CD335, anti-CD336, anti-CTLA-4, anti-PD-L1, anti-OX40 antibody, or a fragment of the preceding antibodies comprising at least the paratope.

12. The use of any one of claims 1 to 11, wherein said medicament activates antigen-presenting cells, particularly dendritic cells or monocytes, activates NK or NKT cells, and/or activates the secretion of the cytokines IL-6 and/or IL-12.

13. The use of any one of claims 1 to 12, wherein the immunostimulatory medicament comprises at least one pharmaceutically acceptable carrier, and/or an adjuvant.

14. The use of claim 13, wherein the adjuvant is a CpG oligodeoxynucleotide, polyinosinic-polycytidylic acid or a mixture of CpG oligodeoxynucleotide(s) and polyinosinic:polycytidylic acid, and/or the carrier is a nanoparticle.

15. The use of claim 13 or 14, wherein the immunostimulatory medicament further comprises at least one other therapeutic agent, preferably at least one immune checkpoint inhibitor, preferably an anti-PD-1, an anti-PDL-1 or an anti-CTLA4.