Claims

1. A nanoparticle comprising

   a) a micelle comprising an amphiphilic polymer with a number average molecular weight (Mn) of 20,000 g/mol or less, and

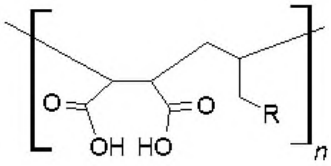
   b) at least one peptide comprising at least one T cell epitope.

2. The nanoparticle of claim 1, wherein the nanoparticle further comprises a solid hydrophobic core which is partially or entirely coated by the micelle, wherein the core comprises a traceable inorganic material selected from the group consisting of iron oxide, CdSe/CdS/ZnS, silver and gold.

3. The nanoparticle of claim 1 or claim 2, wherein the peptide is associated with the outside of the micelle.

4. The nanoparticle of any one of claims 1 to 3, wherein the amphiphilic polymer has a number average molecular weight (Mn) of 6,000 to 1,000 g/mol.

5. The nanoparticle of any one of claims 1 to 4, wherein the amphiphilic polymer comprises the following building block:



   wherein R is a hydrocarbyl group or a substituted hydrocarbyl group, preferably wherein R is a C_4 to C_{22} alkyl group, preferably wherein R is a C_8 to C_{20} alkyl group.

6. The nanoparticle of claim 5, wherein R is a linear alkyl group, preferably wherein R is a linear C_{11} to C_{17} alkyl group, most preferably wherein R is a linear pentadecyl group.

7. The nanoparticle of any one of claims 1 to 6, wherein the amphiphilic polymer is selected from the group consisting of poly(maleic acid-alt-1-octadecene), poly(maleic acid-*alt*-1-dodecene) and poly(maleic acid-alt-1-tetradecene).

8. The nanoparticle of any one of claims 1 to 7, wherein the amphiphilic polymer is poly(maleic acid-alt-1-octadecene), and

   the number average molecular weight of the amphiphilic polymer is from 6,000 to 1,000 g/mol.

9. The nanoparticle of any one of claims 1 to 8, wherein the peptide is covalently linked to the outside of the micelle.

10. The nanoparticle of any one of claims 1 to 9, wherein the nanoparticle is negatively charged at a pH of 6 to 7.

11. The nanoparticle of any one of claims 1 to 10, wherein the nanoparticle has a hydrodynamic diameter between 100 and 10 nm, as measured by dynamic light scattering.

12. The nanoparticle of any one of claims 1 to 11, wherein the nanoparticle has a hydrodynamic diameter between 50 and 10 nm, as measured by dynamic light scattering.

13. The nanoparticle of any one of claims 1 to 11, wherein the nanoparticle has a hydrodynamic diameter between 20 and 40 nm, as measured by dynamic light scattering.

14. A pharmaceutical composition comprising the nanoparticle of any one of claims 1 to 13.

15. The nanoparticle of any one of claims 1 to 13 for use in therapy.

16. Use of the nanoparticle of any one of claims 1 to 13 in the manufacture of a pharmaceutical composition for suppressing a specific immune response, wherein said response is associated with an autoimmune disease, preferably with an autoimmune disease selected from the group consisting of Pemphigus vulgaris, Pemphigus foliaceus, Epidermolysis bullosa Acquisita, Bullous pemphigoid, Cicatricial pemphigoid, Goodpasture syndrome, Microscopic polyangiitis, Granulomatosis with polyangiitis (Granulom. Wegener), Thrombotic thrombocytopenic purpura, Immune thrombocytopenic purpura, Uveitis, HLA-B27-associated acute anterior uveitis, Multiple sclerosis, Neuromyelitis optica, Type I diabetes, Narcolepsy with or without cataplexy, Celiac disease, Dermatitis herpetiformis, Allergic airways disease/Asthma, Myasthenia gravis, Hashimoto thyreoiditis, Autoimmune thyroid disease, Graves disease, Autoimmune thyroid disease, Autoimmune Hypoparathyroidism, Autoimmune thyroid disease, Antiphospholipid syndrome, Autoimmune Addison's Disease, Autoimmune haemolytic anaemia, Chronic inflammatory demyelinating, Polyneuropathy, Guillain–Barré syndrome, Autoimmune neutropenia, Linear morphea, Batten disease, Acquired hemophilia A, Relapsing polychondritis, Isaac´s syndrome (acquired neuro-myotonia), Rasmussen encephalitis, Morvan syndrome, Stiff-person syndrome, Pernicious anaemia, Vogt–Koyanagi–Harada syndrome, Primary biliary

cirrhosis, Autoimmune hepatitis type I, Autoimmune hepatitis type II, Systemic lupus erythematosus, Rheumatoid arthritis, Polymyositis/ Dermatomyositis, Sjögren syndrome, Scleroderma, Vitiligo and Alopecia areata.