Claims

1. Use of one or more of oligonucleotide selected from the group consisting of:
5'-cctcctcctcctcctcctcctcctcct-3' (SEQ ID NO: 6),
5'-cctcctcctcctcctcctcctcctcctc-3' (SEQ ID NO: 7),
5'-cctcctcctcctcctcctcctcctcctcc-3' (SEQ ID NO: 8),
5'-cctcctcctcctcctcctcctcctcctcct-3' (SEQ ID NO: 9),
5'-cctcctcctcctcctcctcctcctcctcctc-3' (SEQ ID NO: 10),
5'-cctcctcctcctcctcctcctcctcctcctcc-3' (SEQ ID NO: 11),
5'-cctcctcctcctcctcctcctcctcctcctcct-3' (SEQ ID NO: 12), and
5'-cctcctcctcctcctcctcctcctcctcctcctcct-3' (SEQ ID NO: 13);
in the manufacture of a remedy for use in for treating an immune-mediated disorder in a subject, wherein the immune-mediated disorder is autoimmune disease, hypersensitivity, graft rejection, diseases associated with the over-stimulation of host's immune system by microbes, NF- κB mediated disease caused by the activation of NF-κB, Toll-like receptor (TLR)-mediated disease caused by activation of TLR, or cytokine-mediated disease caused by the overproduction of Interferon or proinflammatory cytokine.

2. Use according to claim 1, wherein the phosphate backbone of the oligonucleotide is partly or completely phosphorothioate-modified, or unmodified.

3. Use according to claim 1 or 2, wherein the oligonucleotide is developed by adding a nucleotide to an end of the oligonucleotide and inhibits activation of TLR9 and TLR7.

4. Use according to claim 3, wherein the oligonucleotide is developed by further adding a nucleotide to an end of the oligonucleotide and inhibits activation of TLR9 and TLR7.

5. Use according to any one of claims 1-4, wherein the oligonucleotide is changed with one or two nucleotide(s) and inhibits activation of TLR9 and TLR7.

6. Use according to any one of claims 1-5, wherein the oligonucleotide constitutes a part of other DNA molecules, plasmid or viral vectors.

7. Use according to any one of claims 1-6, wherein the oligonucleotide undergoes chemical modification other than phosphorothioation in the phosphate backbone.

8. Use according to any one of claims 1-7, wherein the oligonucleotide is pegylated.

9. Use according to any one of claims 1-8, wherein the subject refers to a human or non-human vertebrate.

10. Use according to any one of claims 1-9, wherein the remedy further comprises pharmaceutically acceptable carrier.

11. Use according to any one of claims 1-10, wherein the remedy is to be administered to a subject through the route including enteral, parenteral and topical administration or inhalation.

12. Use according to any one of claims 1-11, wherein the oligonucleotide is used alone or in combination with additional active ingredients.

13. Use according to any one of claims 1-12, wherein the immune-mediated disorder is a Toll-like receptor (TLR)-mediated disease caused by the activation of Toll-like receptor.

14. Use according to claim 13, wherein the Toll-like receptor is Toll-like receptor 9.

15. Use according to claim 13, wherein the Toll-like receptor is Toll-like receptor 7 or 8.

16. Use according to any one of claims 1-12, wherein the immune-mediated disorder is a NF-κB -mediated disease caused by the activation of NF-κB.

17. Use according to any one of claims 1-12, wherein the immune-mediated disorder is a cytokine-mediated disease caused by the overproduction of Interferon.

18. Use according to any one of claims 1-12, wherein the immune-mediated disorder is a cytokine-mediated disease caused by the overproduction of proinflammatory cytokine.

19. Use according to any one of claims 1-12, wherein the Toll-like receptor (TLR)-mediated disease caused by activation of TLR is sepsis, cardiomyopathy, diabetes, autoimmune encephalomyelitis, systemic lupus erythematosus (SLE), atherosclerosis, asthma, chronic obstructive pulmonary disease, EAE, or organ failure.

20. Use according to any one of claims 1-12, wherein the NF-κB -mediated disease caused by the activation of NF-κB is rheumatoid arthritis (RA), gastritis or inflammatory bowel disease.

21. Use according to any one of claims 1-12, wherein the cytokine-mediated disease caused by the overproduction of Interferon or proinflammatory cytokine is sepsis or multiple organ dysfunction syndromes (MODS).

22. Use according to any one of claims 1-12, wherein the autoimmune disease is systemic lupus erythematosus (SLE), insulin-dependent (type I) diabetes mellitus, inflammatory arthritis, rheumatoid arthritis, multiple sclerosis, autoimmune hepatitis, chronic aggressive hepatitis, autoimmune hemolytic anemia, autoimmune thrombocytopenia, autoimmune atrophic gastritis of pernicious anemia, autoimmune encephalomyelitis, autoimmune orchitis, acquired hemophilia, ankylosing spondylitis, antiphospholipid syndrome, Behcet's syndrome, cardiomyopathy, chronic inflammatory demyelinating polyneuropathy, cicatricial pemphigoid, cold agglutinin disease, polymyositis, dermatomyositis, discoid lupus, sympathetic ophthalmia, essential mixed cryoglobulinemia, fibromyalgia, fibromyositis, Guillain-Barre syndrome, idiopathic pulmonary fibrosis, idiopathic thrombocytopenic purpura, lgA nephropathy, juvenile arthritis, systemic sclerosis, polyarteritis nodosa, polychondritis, dermatomyositis, primary agammaglobulinemia, primary biliary cirrhosis, hyperimmunoglobulin E syndrome, progressive systemic sclerosis, psoriasis, Reiter's syndrome, sarcoidosis, stiff-man syndrome, uveitis, vasculitis, vitiligo, Hashimoto's thyroiditis, Goodpasture's disease, pernicious anemia, Addison's disease, Sjogren's syndrome, myasthenia gravis, Grave's disease, allergic encephalomyelitis or glomerulonephritis.

23. Use according to any one of claims 1-12, wherein the hypersensitivity is allergic extrinsic asthma, seasonal allergic rhinitis, systemic anaphylaxis, autoimmune hemolytic anemia, erythroblastosis fetalis, Goodpasture's disease, Arthus reaction, serum sickness, systemic lupus erythematosis, glomerulonephritis, contact dermatitis or allograft rejection.