[0020] Another embodiment of the present invention includes the use of human Factor H purified from human blood or recombinant human Factor H administered to patients intraocularly or by any other clinically effective route.

[0021] Antibodies of the present invention include whole immunoglobulins, scFv, Fab, Fab', Fv, F(ab')2, or dAb. Domain antibodies comprise either a VH domain or a VL domain.

[0022] One embodiment of the present invention is the use of a monoclonal antibody which binds to Factor D and blocks its ability to activate the alternative complement pathway. Such antibodies are described in WO 01/70818 and US 20020081293, which are incorporated here by reference, such as monoclonal antibody 166-32 produced from the hybridoma deposited with the ATCC and designated HB12476. The present invention also includes antibodies that specifically bind to the same epitope as monoclonal antibody 166-32.

[0023] One embodiment of the present invention is the use of a monoclonal antibody which binds to complement component C5a. Such antibodies include antibody 137-26 produced from the hybridoma deposited with the ATCC and designated PTA-3650, and any antibody that specifically binds to the same epitope as 137-26.

[0024] According to the present invention, the complement pathway inhibitor may be administered by (a) parenteral administration; (b) biocompatible or bioerodable sustained release implant; (c) implantation of an infusion pump; or (d) local administration, such as subconjunctival administration or by intravitreal administration. The complement inhibitor may also be administered by parenteral administration selected from oral administration, enteral administration and topical administration. Topical administration may include an eye wash solution, an eye ointment, an eye shield or an eye drop solution.

[0025] In addition the complement inhibitor of the present invention may be administered in combination with a immunomodulatory or immunosuppressive compound.

[0026] Another embodiment of the present invention relates to the administration of nucleic acid constructs that are capable of expressing the complement pathway inhibitors for gene therapy.

[0027] Another embodiment of the present invention includes a method for screening for complement inhibitors that are useful in the treatment of AMD comprising the use of an AMD model in senescent Ccl-2 or Ccr-2-deficient mice. These mice manifest similar histopathological changes found in human dry and wet AMDs. These mice may be treated with complement inhibitors or Factor H intravitreally. Histological examination may be performed to determine protection from AMD development in mice treated with the agents to be tested.

DETAILED DESCRIPTION OF THE INVENTION

We Claim:

1. Use of a complement inhibitor in the manufacture of a medicament for treating an ocular disease associated with complement activation in a subject, wherein the complement inhibitor is an antibody or an antibody-binding fragment thereof or a nucleic acid encoding the antibody or the antigen-binding fragment, wherein the antibody or the antigen-binding fragment specifically binds to Factor D, and wherein the ocular disease is age-related macular degeneration.

2. The use of claim 1, wherein the antigen-binding fragment comprises a Fab, Fab', $F(ab')_2$, Fv, a single chain Fv, a diabody, or a single domain antibody.

3. The use of claim 1, wherein the antibody is a monoclonal antibody, a chimeric antibody, a deimmunized antibody, a humanized antibody, a primatized antibody or a human antibody.

4. The use of claim 1, wherein the antibody or the antigen-binding fragment thereof is conjugated to a therapeutic moiety.

5. The use of claim 1, wherein the antibody is monoclonal antibody 166-32 produced from the hybridoma deposited with the ATCC and designated HB 12476.

6. The use of claim 1, wherein the antibody specifically binds to the same epitope as monoclonal antibody 166-32, and wherein the monoclonal antibody 166-32 is produced from the hybridoma deposited with the ATCC and designated HB 12476.

7. The use of claim 1, wherein the antibody is a humanized antibody derived from monoclonal antibody 166-32, and wherein the monoclonal antibody 166-32 is produced from the hybridoma deposited with the ATCC and designated HB 12476.

8. Use of the complement inhibitor as defined in any one of claims 1-7 in the manufacture of a medicament for use in treating an ocular disease associated with complement activation in a subject, wherein the medicament further comprises a pharmaceutically acceptable diluent or carrier, and wherein the ocular disease is age-related macular degeneration.

9. The use of claim 8, wherein the medicament is in an intraocular administration form, intravitreal administration form, subconjunctival administration form, parenteral administration form, intradermal administration form, intramuscular administration form, intraperitoneal administration form, intravenous administration form, subcutaneous administration form, intranasal administration

form, oral administration form, enteral administration oral, topical administration form, intrathecal administration form, intraventricular administration form, epidural form, inhalation form, a biocompatible or bioerodable sustained release implant, or an implanted infusion pump.

10. The use of claim 8, wherein the medicament is an eye wash solution or an eye drop solution.

11. The use of claim 8, wherein the medicament further comprises or wherein the medicament is for administration with an immunomodulatory, an immunosuppressive, an anti-inflammatory, or an anti-angiogenic compound.

12. The use of claim 8, wherein the medicament further comprises or wherein the medicament is for administration with a steroid.

13. The use of claim 8, wherein the complement inhibitor is in an amount between 0.1 mg/kg to 100 mg/kg of the body weight of the subject.

14. Use of a complement inhibitor in the manufacture of a medicament for treating an ocular disease associated with complement activation in a subject, wherein the complement inhibitor is

(i) monoclonal antibody 166-32 produced from the hybridoma deposited with the ATCC and designated HB 12476 or an antigen-binding fragment thereof, or

(ii) an antibody that specifically binds to the same epitope as monoclonal antibody 166-32 or an antigen-binding fragment thereof, or

(iii) a humanized antibody derived from monoclonal antibody 166-32 or an antigen-binding fragment thereof,

wherein the ocular disease is age-related macular degeneration.

15. The use of any one of claims 1, 8 and 14, wherein the age-related macular degeneration is the dry form of age-related macular degeneration.

16. The use of any one of claims 1, 8 and 14, wherein the age-related macular degeneration is the wet form of age-related macular degeneration.