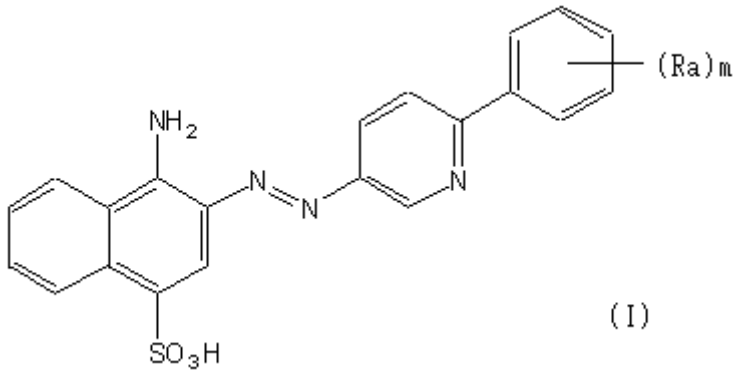
What is claimed is

1. Use of ~~A composition for protecting a cornea, comprising~~ a compound of formula (I):



(I)

wherein

Ra is selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, aryl, halo- or alkyl-substituted aryl, alkoxy, hydroxy- or carboxy-substituted alkoxy, aryloxy, halo- or alkyl-substituted aryloxy, CHO, C(O)-alkyl, C(O)-aryl, C(O)-alkyl-carboxyl, C(O)-alkylene-carboxy ester, and cyano, and

m is an integer selected from 0 to 4,

or ~~an ester, oxide,~~ a pharmaceutically acceptable salt or solvate thereof, in the manufacture of a medicament for protecting a cornea.

2. The ~~composition~~ use according to claim 1, wherein each Ra radical is independently selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, and alkoxy.

3. The ~~composition~~ use according to claim 1, wherein the compound of formula (I) is selected from the group consisting of

4-amino-3-(6-phenylpyridine-3-ylazo)naphthalene-1-sulfonic acid;

4-amino-3-(6-p-tolylpyridine-3-ylazo)naphthalene-1-sulfonic acid;

4-amino-3-(6-m-tolylpyridine-3-ylazo)naphthalene-1-sulfonic acid;

4-amino-3-(6-o-tolylpyridine-3-ylazo)naphthalene-1-sulfonic acid;

4-amino-3-(6-biphenyl-2-ylpyridine-3-ylazo)naphthalene-1-sulfonic acid;

3-[6-(2-acetylphenyl)pyridine-3-ylazo]-4-aminonaphthalene-1-sulfonic acid;

3-[6-(3-acetylphenyl)pyridine-3-ylazo]-4-aminonaphthalene-1-sulfonic acid;

3-[6-(4-acetylphenyl)pyridine-3-ylazo]-4-aminonaphthalenesulfonic acid;

4-amino-3-[6-(2,4-dichlorophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-trifluoromethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(4-trifluoromethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-chlorophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(3-chlorophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(4-chlorophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-methoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4-methoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(2-isopropoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4-isopropoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(2-phenoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3-methoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(2,3-dimethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(2,5-dimethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3,5-dimethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3-trifluoromethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-{4-[5-(1-amino-4-sulfonaphthalene-2-ylazo)pyridine-2-yl]phenyl}-4-oxobutyric acid;
4-amino-3-(6-biphenyl-3-ylpyridine-3-ylazo)naphthalene-1-sulfonic acid;
4-amino-3-[6-(3-cyanophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4-cyanophenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3,5-bistrifluoromethylphenyl)pyridine-3-ylazo]naphthalenesulfonic acid;

4-amino-3-[6-(4-benzoylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-propoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(4-fluoro-2-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(5-fluoro-2-propoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-fluoro-6-propoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(4-fluoro-2-propoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(5-fluoro-2-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-fluoro-5-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-butoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-hexyloxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(4-butylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-hydroxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;

4-amino-3-{6-[2-(6-hydroxyhexyloxy)phenyl]pyridine-3-ylazo}naphthalene-1-sulfonic acid;

4-{2-[5-(1-amino-4-sulfonaphthalene-2-ylazo)pyridine-2-yl]phenoxy} butyric acid;

4-amino-3-{6-[2-(3-hydroxypropoxy)phenyl]pyridine-3-ylazo}naphthalene-1-sulfonic acid;

4-amino-3-[6-(2-isobutoxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(5-chloro-2-hydroxyphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4-methylbiphenyl-2-yl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4'-chloro-4-methylbiphenyl-2-yl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(4,3',5'-trimethylbiphenyl-2-yl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3'-chloro-4-methylbiphenyl-2-yl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(2,6-dimethylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid;
4-amino-3-[6-(3-formyl-2-isopropoxy-5-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid; and
4-amino-3-[6-(3-formyl-2-butoxy-5-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid.

4. The ~~composition~~ use according to claim 1, wherein the compound of formula (I) is 4-amino-3-[6-(4-fluoro-2-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid or 4-amino-3-[6-(3-formyl-2-butoxy-5-methylphenyl)pyridine-3-ylazo]naphthalene-1-sulfonic acid.

5. The ~~composition~~ use according to any one of claims 1 to 4, wherein the composition is for treating or preventing a corneal disease.

6. The ~~composition~~ use according to claim 5, wherein the corneal disease is a corneal endothelial disease.

7. The ~~composition~~ use according to claim 5, wherein the corneal disease is a corneal epithelial disease.

8. The ~~composition~~ use according to claim 5, wherein the corneal disease is cornea guttata, Fuchs endothelial corneal dystrophy, posterior polymorphous corneal dystrophy, iridocorneal endothelial syndrome, congenital hereditary corneal endothelial dystrophy, cytomegalovirus endotheliitis, herpetic endotheliitis, exfoliation syndrome, corneal endothelial graft rejection, keratouveitis, interstitial keratitis, corneal endotheliitis, corneal endothelial cell loss after corneal transplantation, corneal injury after intraocular surgery, corneal injury induced by glaucomatous attack, corneal injury caused by long-term contact lens use, corneal trauma, intrapartum corneal trauma, bullous keratopathy, superficial punctate keratitis, corneal erosion, corneal ulcer, dry eye, keratoconjunctivitis sicca, or corneal marginal ulcer.

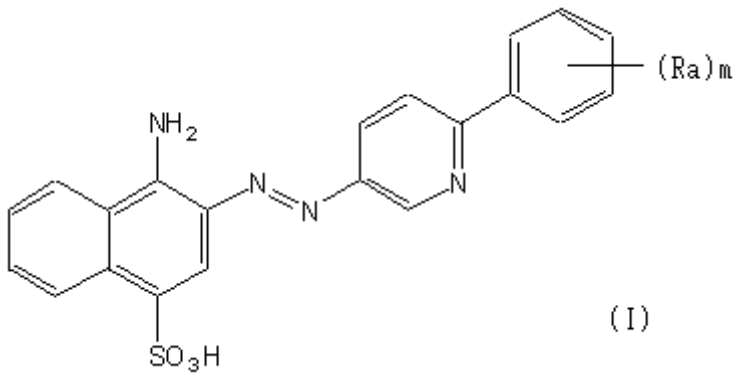
9. The ~~composition~~ use according to claim 5, wherein the corneal disease is Fuchs endothelial corneal dystrophy, bullous keratopathy, corneal erosion, dry eye, or corneal trauma.

10. The ~~composition~~ use according to any one of claims 1 to 9, wherein the composition is an eye drop.

11. The ~~composition~~ use according to any one of claims 1 to 9, wherein the composition is an ocular irrigation solution or a composition to be added to an ocular irrigation solution.

12. The ~~composition~~ use according to any one of claims 1 to 9, wherein the composition is a solution for preserving a corneal graft or a composition to be added to a solution for preserving a corneal graft.

13. Use of ~~A pharmaceutical composition for treating or preventing a corneal disease, comprising~~ a compound of formula (I):



(I)

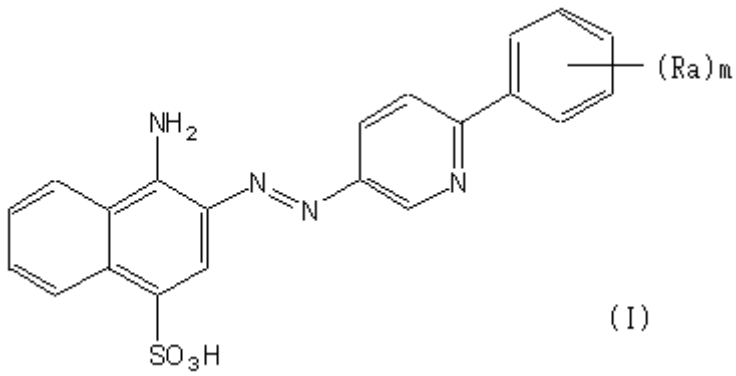
wherein

Ra is selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, aryl, halo- or alkyl-substituted aryl, alkoxy, hydroxy- or carboxy-substituted alkoxy, aryloxy, halo- or alkyl-substituted aryloxy, CHO, C(O)-alkyl, C(O)-aryl, C(O)-alkyl-carboxyl, C(O)-alkylene-carboxy ester, and cyano, and

m is an integer selected from 0 to 4,

or ~~an ester, oxide,~~ a pharmaceutically acceptable salt or solvate thereof, in the manufacture of a medicament for treating or preventing a corneal endothelial disease or a corneal epithelial disease.

14. Use of ~~A composition for ocular irrigation, comprising~~ a compound of formula (I):



(I)

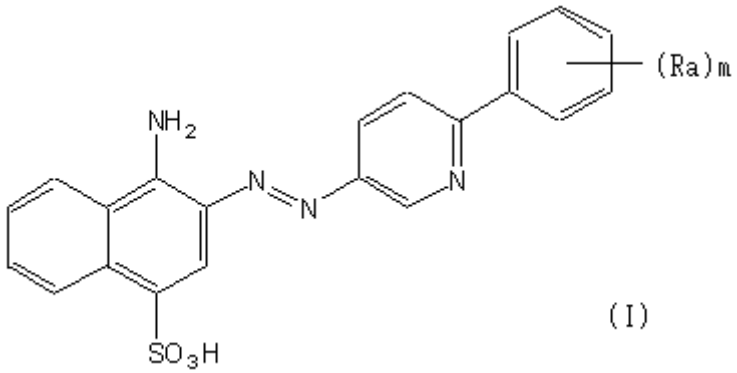
wherein

Ra is selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, aryl, halo- or alkyl-substituted aryl, alkoxy, hydroxy- or carboxy-substituted alkoxy, aryloxy, halo- or alkyl-substituted aryloxy, CHO, C(O)-alkyl, C(O)-aryl, C(O)-alkyl-carboxyl, C(O)-alkylene-carboxy ester, and cyano, and

m is an integer selected from 0 to 4,

or ~~an ester, oxide,~~ a pharmaceutically acceptable salt or solvate thereof, in the manufacture of a medicament for ocular irrigation.

15. Use of ~~A composition for preserving a corneal graft, comprising~~ a compound of formula (I):



(I)

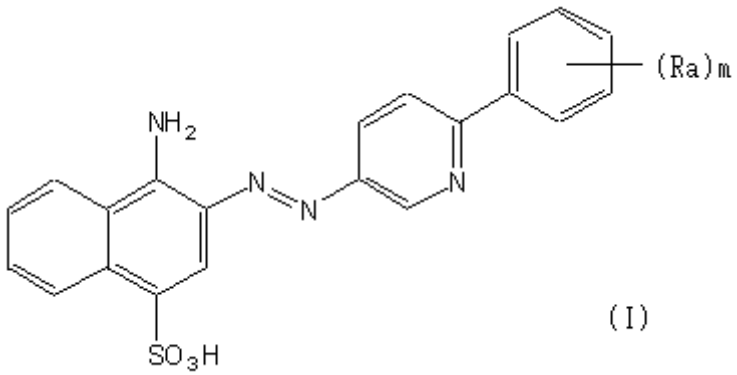
wherein

Ra is selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, aryl, halo- or alkyl-substituted aryl, alkoxy, hydroxy- or carboxy-substituted alkoxy, aryloxy, halo- or alkyl-substituted aryloxy, CHO, C(O)-alkyl, C(O)-aryl, C(O)-alkyl-carboxyl, C(O)-alkylene-carboxy ester, and cyano, and

m is an integer selected from 0 to 4,

or ~~an ester, oxide,~~ a pharmaceutically acceptable salt or solvate thereof, in the manufacture of a medicament for preserving a corneal graft.

16. A method for preserving or protecting a corneal graft, comprising preserving a corneal graft in a corneal preservation solution comprising a compound of formula (I):



(I)

wherein

Ra is selected from the group consisting of halo, hydroxy, alkyl, halo-substituted alkyl, aryl, halo- or alkyl-substituted aryl, alkoxy, hydroxy- or carboxy-substituted alkoxy, aryloxy, halo- or alkyl-substituted aryloxy, CHO, C(O)-alkyl, C(O)-aryl, C(O)-alkyl-carboxyl, C(O)-alkylene-carboxy ester, and cyano, and

m is an integer selected from 0 to 4,

or a pharmaceutically acceptable salt or solvate thereof.