Claims

1. Use of a fluorescent marker of retinal integrity in the manufacture of a medicament for diagnosing a CNS disorder, wherein the fluorescent marker is for intranasal administration.

2. A use according to claim 1, wherein the fluorescent marker is in the form of a powder, a suspension or a solution.

3. A use according to claim 1 or 2, wherein the fluorescent marker is a marker of retinal blood vessel integrity.

4. A use according to any of claims 1 to 3, wherein the fluorescent marker has a molecular weight of 2 kDa or less.

5. A use according to any of claims 1 to 4, wherein the fluorescent marker is selected from one or more of sodium fluorescein or indocyanine green (ICG).

6. A use according to claim 1 or 2, wherein the fluorescent marker is a marker of retinal cell integrity.

7. A use according to claim 1, 2 or 6, wherein the fluorescent marker comprises a fluorescent label and a marker of one or more of apoptosis, necrosis, cell activity, cell stress or protein aggregation.

8. A use according to claim 7, wherein the fluorescent label has an emission wavelength of 400nm to 1000nm.

9. A use according to claim 7 or 8, wherein the fluorescent label is selected from one or more of sodium fluorescein, indocyanine green (ICG), curcumin, IRDye700, IRDye800, Dy-776, Dy-488 and D-781.

10. A use according to any of claims 7 to 9, wherein the marker of apoptosis is selected from one or more of an annexin, C2A domain of synaptotagmin-I, duramycin, WC-II-89, and ApoSense, such as NST-732, DDC and ML-10.

11. A use according to claim 10, wherein the annexin is selected from one or more of annexin 2, annexin 5, annexin 6, annexin 11 or annexin 128.

12. A use according to any of claims 7 to 9, wherein the marker of necrosis is selected from one or more of propidium iodide (PI), pyrophosphate, antimyosin, glucarate, hypericin, hypericin monocarboxylic acid, pamoic acid, bis-hydrazide-bis-DTPA pamoic acid, 99mTc-pyrophosphate, 111In-antimyosin, 99mTc-glucarate and methylene blue.

13. A use according to any of claims 7 to 9, wherein the marker of cell activity is selected from one or more of membrane dyes, mitochondrial dyes, autophagy dyes, necrosis dyes and calcium flux.

14. A use according to any of claims 7 to 9, wherein the marker of cell stress is selected from one or more of a marker of lipid peroxidation, glutathione (GSH) or reactive oxygen species (ROS), such as superoxide, peroxyl radical, hydrogen peroxide, hydroxyl radical and peroxynitrite.

15. A use according to any of claims 7 to 9, wherein the marker of protein aggregation is selected from one or more of congo-red, curcumin or Thioflavin S.

16. A use according to any of claims to 1 to 15, wherein the CNS disorder is inflammatory (such as arthridides or granulomatous), infective (such as viral, encephalitic, or bacterial), vascular (such as angiogenic, occlusive or metabolic), or degenerative (such as glaucoma, age-related macular degeneration (AMD), Alzheimer's disease, or Parkinson's disease).

17. A method of diagnosing a CNS disorder comprising administering a fluorescent marker of retinal integrity to a subject and generating an image of the subject's eye, wherein the fluorescent marker is delivered by intranasal administration.

18. A method according to claim 17, wherein the fluorescent marker is in the form of a powder, a suspension or a solution.

19. A method according to claim 17 or 18, wherein the fluorescent marker is a marker of retinal blood vessel integrity.

20. A method according to any of claims 17 to 19, wherein the fluorescent marker has a molecular weight of 2 kDa or less.

21. A method according to any of claim 17 to 20, wherein the fluorescent marker is selected from one or more of sodium fluorescein or indocyanine green (ICG).

22. A method according to claim 17 or 18, wherein the fluorescent marker is a marker of retinal cell integrity.

23. A method according to claim 17, 18 or 22, wherein the fluorescent marker comprises a fluorescent label and a marker of one or more of apoptosis, necrosis, cell activity, cell stress or protein aggregation.

24. A method according to claim 23, wherein the fluorescent label has an emission wavelength of 400nm to 1000nm.

25. A method according to claim 23 or 24, wherein the fluorescent label is selected from one or more of sodium fluorescein, indocyanine green (ICG), curcumin, IRDye700, IRDye800, Dy-776, Dy-488 and D-781.

26. A method according to any of claims 23 to 25, wherein the marker of apoptosis is selected from one or more of an annexin, C2A domain of synaptotagmin-I, duramycin, WC-II-89, and ApoSense, such as NST-732, DDC and ML-10.

27. A method according to claim 26, wherein the annexin is selected from one or more of annexin 2, annexin 5, annexin 6, annexin 11 or annexin 128.

28. A method according to any of claims 23 to 25, wherein the marker of necrosis is selected from one or more of propidium iodide (PI), pyrophosphate, antimyosin, glucarate, hypericin, hypericin monocarboxylic acid, pamoic acid, bis-hydrazide-bis-DTPA pamoic acid, 99mTc-pyrophosphate, 111In-antimyosin, 99mTc-glucarate and methylene blue.

29. A method according to any of claims 23 to 25, wherein the marker of cell activity is selected from one or more of membrane dyes, mitochondrial dyes, autophagy dyes, necrosis dyes and calcium flux.

30. A method according to any of claims 23 to 25, wherein the marker of cell stress is selected from one or more of a marker of lipid peroxidation, glutathione (GSH) or reactive oxygen species (ROS), such as superoxide, peroxyl radical, hydrogen peroxide, hydroxyl radical and peroxynitrite.

31. A method according to any of claims 23 to 25, wherein the marker of protein aggregation is selected from one or more of congo-red, curcumin or Thioflavin S.

32. A method according to any of claims to 17 to 31, wherein the CNS disorder is inflammatory (such as arthridides or granulomatous), infective (such as viral, encephalitic, or bacterial), vascular (such as angiogenic, occlusive or metabolic), or degenerative (such as glaucoma, age-related macular degeneration (AMD), Alzheimer's disease, or Parkinson's disease).

33. A pharmaceutical composition comprising an annexin conjugated to a compound of 2 kDa or less, wherein the composition comprises annexin conjugated at a concentration of at least 5 mg/ml.

34. A pharmaceutical composition according to claim 33, wherein the annexin is annexin 128 and wherein the compound of 2 kDa or less is Dy776.