Claims

1. Therapeutic cells, but not human embryonic stem cells, for use in treating a damaged or degenerating or injured central nervous system of an animal, the damage or degeneration caused by a neurological disease or condition that results in the loss or death of central nervous system cells, said treatment comprising:

applying the therapeutic cells to the upper third of the nasal cavity of the animal; and enabling the therapeutic cells to access the damaged central nervous system by bypassing the blood-brain barrier.

2. Therapeutic cells for use according to claim 1, said treatment further comprising administering the therapeutic cells to a tissue innervated by the olfactory nerve, wherein the at least one therapeutic cell by-passes the blood-brain barrier to access the damaged central nervous system; and minimizing systemic delivery of the therapeutic cells outside of the central nervous system.

3. Therapeutic cells for use according to one of the preceding claims, said treatment further comprising applying to the upper third of the animal's nasal cavity at least one delivery-enhancement agent in an effective amount within a pharmaceutical composition comprising the therapeutic cells or prior to applying the therapeutic cells.

4. Therapeutic cells for use according to claim 3, wherein the at least one delivery-enhancement agent comprises one of the group consisting of hyaluronidase, lipophilic agents, leukemia inhibitory factor, migration-including activity and neuregulin.

5. Therapeutic cells for use according to one of the preceding claims, wherein the therapeutic cells comprise at least one of the group consisting of eukaryotic cells and stem cells.

6. Therapeutic cells for use according to one of the preceding claims, said treatment further comprising applying the at least one therapeutic cell to the upper third of the

animal's nasal cavity in a physiologically effective amount to provide therapeutic action comprising replacement of lost and/or dying cells in the damaged central nervous system.

7. Therapeutic cells for use according to one of the preceding claims, wherein the neurological disease or condition comprises at least one of the group consisting of Parkinson's disease, Alzheimer's disease, and ischemia.

8. Therapeutic cells for use according to one of the preceding claims, said treatment further comprising pre-treating the upper third of the nasal cavity with at least one antibiotic in an effective amount before applying the therapeutic cells.

9. Therapeutic cells for use according to one of the preceding claims, said treatment further comprising providing, in an effective amount, at least one of the group consisting of antibiotic, regulatory agent and immunosuppressive agent within a pharmaceutical composition comprising the therapeutic cells or prior to applying the therapeutic cells.

10. Therapeutic cells for use according to one of the preceding claims, said treatment further comprising applying a pharmaceutical composition comprising the therapeutic cells to the upper third of the animal's nasal cavity in a physiologically effective amount to provide therapeutic action comprising replacement of lost and/or dying cells in the damaged central nervous system.

11. Pharmaceutical composition for use in treating a damaged or degenerating or injured central nervous system of an animal, the damage or degeneration caused by a neurological disease or condition that results in the loss or death of central nervous system cells, comprising:

therapeutic cells but not human embryonic stem cells, wherein the treatment comprises administering the pharmaceutical composition to the upper third of the nasal cavity of the animal; and enabling the therapeutic cells to access the damaged central nervous system by bypassing the blood-brain barrier.

12. Pharmaceutical composition for use according to claim 11, comprising therapeutic cells according to one of claims 1-10.

13. Pharmaceutical composition for use according to one of claims 11 or 12, further comprising at least one of the group consisting of delivery-enhancement agent, antibiotic, immunosuppressive agent and regulatory agent.

14. Pharmaceutical composition for use according to claim 13, wherein the delivery enhancement agent is at least one of the group consisting of hyaluronidase, lipophilic agents, leukemia inhibitory factor, migration-inducing activity and neuregulin.

15. Therapeutic cells or pharmaceutical composition for use according to one of the preceding claims, wherein the animal is a mammal

WE CLAIM:

1. Use of therapeutic cells, but not human embryonic stem cells, in the preparation of a pharmaceutical composition for treating damaged or degenerating or injured central nervous system of an animal, the damage or degeneration caused by a neurological disease or condition that results in the loss or death of central nervous system cells, wherein the treating comprises applying the therapeutic cells to the upper third of the nasal cavity of the animal; and enabling the therapeutic cells to access the damaged central nervous system by bypassing the blood-brain barrier.

2. The use according to claim 1, wherein the treating further comprises administering the therapeutic cells to a tissue innervated by the olfactory nerve, wherein the at least one therapeutic cell by-passes the blood-brain barrier to access the damaged central nervous system; and minimizing systemic delivery of the therapeutic cells outside of the central nervous system.

3. The use according to claim 1 or 2, wherein the pharmaceutical composition further comprises at least one delivery enhancement agent in an effective amount.

4. The use according to claim 1 or 2, wherein the treating comprises applying at least one delivery-enhancement agent in an effective amount to the upper third of the animal's nasal cavity prior to applying the therapeutic cells.

5. The use according to claim 3 or 4, wherein the at least one delivery-enhancement agent comprises one of the group consisting of hyaluronidase, lipophilic agents, leukemia inhibitory factor, migration-inducing activity and neuregulin.

6. The use according to any preceding claim, wherein the therapeutic cells comprise at least one of the group consisting of eukaryotic cells and stem cells.

7. The use according to any preceding claim, wherein the treating further comprises applying the at least one therapeutic cell to the upper third of the animal's nasal cavity in a physiologically effective amount to provide therapeutic action comprising replacement of lost and/or dying cells in the damaged central nervous system.

8. The use according to any preceding claim, wherein the neurological disease or condition comprises at least one of the group consisting of Parkinson's disease, Alzheimer's disease, and ischemia.

9. The use according to any preceding claim, wherein the treating further comprises pre-treating the upper third of the nasal cavity with at least one antibiotic in an effective amount before applying the therapeutic cells.

10. The use according to any preceding claim, wherein the pharmaceutical composition further comprises at least one of the group consisting of antibiotic, regulatory agent and immunosuppressive agent in an effective amount.

11. The use according to any of claims 1 to 9, wherein the treating comprises providing, in an effective amount, at least one of the group consisting of antibiotic, regulatory agent and immunosuppressive agent prior to applying the therapeutic cells.

12. The use according to any preceding claim, wherein the treating further comprises applying the pharmaceutical composition to the upper third of the animal's nasal cavity in a physiologically effective amount to provide therapeutic action comprising replacement of lost and/or dying cells in the damaged central nervous system.

13. Use of a pharmaceutical composition comprising therapeutic cells, but not human embryonic stem cells, in the preparation of a medicament for treating a damaged or degenerating or injured central nervous system of an animal, the damage or degeneration caused by a neurological disease or condition that results in the loss or death of central nervous system cells, wherein the treating comprises administering the pharmaceutical composition to the upper third of the nasal cavity of the animal; and enabling the therapeutic cells to access the damaged central nervous system by bypassing the blood-brain barrier.

14. The use according to claim 13, wherein the therapeutic cells comprised in the pharmaceutical composition are as defined in any of claims 1 to 12.

15. The use according to claim 13 or 14, wherein the pharmaceutical composition further comprises at least one of the group consisting of delivery-enhancement agent, antibiotic, immunosuppressive agent and regulatory agent.

16. The use according to claim 15, wherein the delivery-enhancement agent is at least one of the group consisting of hyaluronidase, lipophilic agents, leukemia inhibitory factor, migration-inducing activity and neuregulin.

17. The use according to any of the preceding claims, wherein the animal is a mammal.