

CLAIMS:

1. A method of treating a mammalian subject, the method comprising the systemic or local administration of mammalian amniotic exosomes derived from allogeneic mammalian amnion epithelial cells derived from a donor mammal of the same species.
2. The method of Claim 1 wherein the mammalian subject to be treated is a human.
3. The method of Claim 2 wherein the mammalian subject to be treated is a non-human mammal.
4. The method of Claim 3 wherein the non-human mammalian subject to be treated is a racing animal selected from the group consisting of a horse, dog and camel.
5. The method of Claim 2 wherein the human subject is treated to induce cellular or neuronal repair, regeneration or reparation of the central nervous systems, peripheral nervous system, the systemic vasculature or for wound healing.
6. The method of Claim 5 wherein the human subject is being treated to repair, regenerate or reparate cells or tissues of the lungs, heart, liver, kidney, or pancreas, cells following ischemic-reperfusion injury, a wound, brain or spinal cord injury or to suppress collagen production in activated fibroblasts.
7. The method of Claim 6 wherein the human subject is being treated for a fibrotic disease, condition or disorder of the lung, liver, heart, kidney or pancreas.
8. The method of Claim 5 wherein the human subject is being treated for neurodegenerative disease or condition.
9. The method of Claim 8 wherein the neurodegenerative disease or condition is a demyelination disease.

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10. The method of Claim 9 wherein the demyelination disease is multiple sclerosis, optic neuritis, Devic's disease, transverse myelitis, acute disseminated encephalomyelitis, adrenoleukodystrophy or adrenomyeloneuropathy.

11. The method of Claim 8 wherein neurodegenerative disease or condition is selected from the group consisting of motor neuron disease, a stroke, spinal cord injury, traumatic brain injury, Alzheimer's disease, Parkinson's disease, Huntington's diseases and multiple sclerosis.

12. The method of Claim 8 wherein the human subject is being treated for a disease or condition selected from the group consisting of bronchopulmonary dysplasia, cystic fibrosis, lung fibrosis, liver fibrosis, chronic lung infection, asthma, allergic rhinitis and chronic obstructive pulmonary disease (COPD).

13. The method of Claim 1 wherein the amniotic exosomes reverse lung infection and fibrosis and reverse primary lung fibroblasts.

14. The method of Claim 1 wherein the amniotic exosomes contain miRNAs which target cytokine-cytokine receptor, Wnt, PI3K-Akt and TGF β signaling pathways.

15. The method of Claim 4 wherein the racing animal is being treated for exercise induced pulmonary hemorrhage.

16. The method of any one of Claims 1 to 15 wherein the amniotic exosomes are derived from a bank of immortalized mammalian amnion epithelial cell lines.

17. The method of any one of Claims 1 to 15 wherein the amniotic exosomes are selected from a bank of lyophilized amniotic exosomes derived from immortalized mammalian amniotic exosomes.

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18. A pharmaceutical composition comprising mammalian amniotic exosomes and one or more pharmaceutically acceptable carriers, excipients and/or diluents.

19. The pharmaceutical composition of Claim 18 wherein the mammalian amniotic exosomes are human amniotic exosomes.

20. Use of mammalian amniotic exosomes in the manufacture of a medicament for cellular or neuronal repair, regeneration and/or reparation in a mammalian subject.

21. Use of Claim 20 wherein the mammalian amniotic exosomes are human amniotic exosomes.

22. An improved cell-based a therapeutic protocol for treating a mammalian subject including a human subject by the use of amnion epithelial cells, the improvement comprising isolating amniotic exosomes from an immortalized amnion epithelial cell line and systemically or locally administrating to the subject in need of tissue or neuronal repair, regeneration and/or reparation.