CLAIMS

We claim:

1. A composition comprising E4ORF1+ endothelial cells (ECs) at a density of from about 50 million cells per ml to about 150 million cells per ml in a freezing medium comprising an effective amount of a cryopreservative.

2. The composition of claim 1, wherein the ECs are human umbilical vein endothelial cells (HUVECs).

3. The composition of claim 1 or claim 2, wherein the endothelial cells (ECs) are at a density of from about 75 million cells per ml to about 125 million cells per ml.

4. The composition of claim 1 or claim 2, wherein the endothelial cells (ECs) are at a density of about 100 million cells per ml.

5. The composition of any of the preceding claims further comprising human serum albumin (HSA).

6. The composition of any of the preceding claims further comprising about 10% human serum albumin (HSA).

7. The composition of any of the preceding claims wherein the cryopreservative is selected from the group consisting of dimethyl sulfoxide, ethylene glycol, propylene glycol, and glycerol.

8. The composition of any of the preceding claims wherein the cryopreservative is dimethyl sulfoxide.

9. The composition of any of the preceding claims comprising from about 5% to about 10% dimethyl sulfoxide.

10. The composition of any of the preceding claims comprising about 10% dimethyl sulfoxide.

11. The composition of any of the preceding claims comprising (a) E4ORF1+ ECs at a density of about 100 million cells per ml, (b) endothelial growth media, (c) about 5 to about 10% DMSO, and (d) about 10% HSA.

12. The composition of any of the preceding claims comprising (a) E4ORF1+ HUVECs at a density of about 100 million cells per ml, (b) endothelial growth media, (c) about 5 to about 10% DMSO, and (d) about 10% HSA.

13. The composition of any of the preceding claims , wherein the composition is in a cryovial.

14. The composition of any of the preceding claims, wherein the composition is in a cryobag.

15. The composition of any of the preceding claims, wherein the composition is in a freezing container adapted for aseptic transfer of its contents to a patient in a closed system.

16. A composition according to any of the preceding claims for use in therapy.

17. A method of freezing endothelial cells, the method comprising:

    a. suspending endothelial cells (ECs) at a density of from about 50 million cells per ml to about 150 million cells per ml in a freezing medium, wherein the freezing medium comprises an effective amount of a cryopreservative, thereby creating a freezing composition, and

    b. subjecting the freezing composition to a gradual decrease in temperature to about -80ºC to -90 ºC.

18. The method of claim 17, wherein in step (b) the temperature is decreased at a rate of about 1ºC per minute.

19. The method of claim 17 or claim 18, comprising subsequently transferring the freezing composition to liquid nitrogen.

20. The method of any of claims 17-19, wherein the ECs are human umbilical vein endothelial cells (HUVECs).