CLAIMS

1. Use of a therapeutically effective amount of an allogeneic human cell population enriched for STRO-1^+ mesenchymal precursor cells (MPCs) in the manufacture of a medicament for increasing cortical activation following a cerebral infarction in a human subject, in which the medicament is formulated for systemic administration, and in which the human cell population was derived from bone marrow.

2. The method according to Claim 1, in which the cerebral infarction is an ischemic cerebral infarction.

3. Use according to Claim 2, in which the cerebral infarction was caused by hypoxic ischemic encephalopathy (HIE).

4. Use according to Claim 1, in which the cerebral infarction is a hemorrhagic cerebral infarction.

5. Use according to any preceding claim, in which the cerebral infarction is in motor cortex.

6. Use according to any preceding claim, in which motor function is improved in the human subject following the administration.

7. Use according to any preceding claim, in which the increase in cortical activation is in response to contralateral tactile stimulation.

8. Use according to any preceding claim, in which the systemic administration is performed at 24 hours or less following the cerebral infarction.

9. Use according to any preceding claim, in which the systemic administration is performed at 12 hours or less following the cerebral infarction.

10. Use according to any preceding claim, in which the STRO-1^+ MPCs are STRO-1^{bright} MPCs.

11. Use according to any of Claims 1 to 9, in which the STRO-1^+ MPCs are tissue non-specific alkaline phosphatase $(TNAP)^+$ or $CD146^+$.

12. Use according to any preceding claim, in which 2 x 10^6 cells/cm^3 of affected cortex to 2 x 10^7 cells/cm^3 of affected cortex are to be administered.

13. Use according to any of Claims 1 to 11, in which 0.1 x 10^6 cells/kg body weight to 5 x 10^6 cells/kg body weight are to be administered.

14. Use according to any preceding claim, in which the human cell population was culture expanded prior to the administration.

15. Use according to any preceding claim, in which the human cell population is a genetically modified human cell population.

16. Use according to any preceding claim, in which the systemic administration is intra-arterial administration or intravenous administration.

17. Use according to Claim 16, in which the systemic administration is intra-arterial administration.

18. Use according to any preceding claim, in which the medicament is for use in combination with a thrombolytic agent for increasing cortical activation.

19. Use according to any of Claims 1 to 17, in which the subject was not administered a thrombolytic agent before or after administration of the human cell population.

20. Use according to any preceding claim, in which the medicament is for use in combination with mannitol for increasing cortical activation.

21. Use according to Claim 20, in which the medicament is for use in further combination with temozolomide.

22. Use according to any preceding claim, in which the medicament is for use in combination with an anti-inflammatory agent.

23. Use according to any preceding claim, in which the human cell population is administered a plurality of times.

24. Use according to any preceding claim, in which the human cell population is to be administered once every four or more weeks.

25. Use according to any of Claims 1 to 22, in which the medicament is to be administered a single time.

26. Use according to any preceding claim, in which at least a portion of the cells in the human cell population is labelled for *in vivo* detection.

27. Use according to any preceding claim, in which, following administration of the medicament, changes in infarct activity within the infarct volume are determined.

FIGURE 9