

CLAIMS

1. A composition comprising a thermoreversible polymer and a nanoparticle
5 comprising a plasminogen activator.
2. The composition of claim 1 wherein said nanoparticle comprises a poloxamer.
3. The composition of claim 2 wherein said poloxamer is selected from the group
10 consisting of: poloxamer 188, 338 and 237.
4. The composition of claim 3 wherein said poloxamer is poloxamer 188.
5. The composition according to any one of claims 1 to 4 wherein said thermoreversible
15 polymer is a poloxamer.
6. The composition of claim 5 wherein said thermoreversible poloxamer is poloxamer 407.
7. The composition of claim 6 wherein said poloxamer 407 is at a concentration
20 between 15 to 25% (w/v), preferably between 17 and 23% (w/v), preferably 17% (w/v).
8. The composition according to any one of claims 1 to 7 wherein said plasminogen
25 activator is selected from the group consisting of: rtPA, alteplase, tenecteplase, pamiteplase, monteplase, lanoteplase, reteplase, desmoteplase, urokinase, streptokinase.
9. The composition according to any one of claims 1 to 7 wherein said plasminogen
30 activator is a double mutant W253R and R275S tPA, preferably consisting of the sequence SEQ ID NO: 1.
10. The composition according to any one of claims 1 to 9 for use as a medicament.

11. The composition according to any one of claims 1 to 9 for use for treating thrombotic or haemorrhagic disease.
12. The composition for use of claim 11 for treating a thrombotic or haemorrhagic disease selected from the group consisting of: thrombotic or embolic ischemia, artery or vein occlusions, deep haematoma, cerebral haemorrhages or haematoma and ocular haemorrhages or haematoma, preferably from intra-parenchymatous haemorrhages or haematoma, intra-ventricular haemorrhages or haematoma, subarachnoid haemorrhages or haematoma, age related macular degeneration, central retinal occlusion, and vitreous haemorrhages, any deep haematoma traumatic or not, any post-surgical haematoma including intracerebral or following intervention for cancer.
13. The composition for use of claim 12 for treating cerebral haemorrhages or haematoma such as intra-parenchymatous haemorrhages or haematoma, intra-ventricular haemorrhages or haematoma and subarachnoid haemorrhages or haematoma.
14. A method for preparing a composition comprising a thermoreversible polymer and a plasminogen activator-poloxamer nanoparticle said method comprising the steps of:
- i) Preparing an aqueous solution comprising a plasminogen activator and a poloxamer,
 - ii) Contacting the obtained solution with a protein precipitation solvent in a sufficient amount to precipitate plasminogen activator in combination with a poloxamer to form a plasminogen activator-poloxamer nanoparticle,
 - iii) Adding said nanoparticles in a thermoreversible polymer.
15. A nanoparticle comprising a plasminogen activator precipitated in combination with a poloxamer, preferably poloxamer 188.