

CLAIMS

1. A method for the diagnosis of ischemia or ischemic tissue damage in a subject comprising determining in a sample of said subject the levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or the levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues, wherein decreased levels of Apo J containing N-acetylglucosamine residues with respect to a reference value or decreased levels of Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues with respect to a reference value are indicative that the patient suffers ischemia or ischemic tissue damage and wherein the sample is plasma, serum or blood.
2. The method according to claim 1 wherein the ischemia is myocardial or cerebral ischemia.
3. The method of claim 2 wherein the myocardial ischemia is acute myocardial ischemia or microvascular angina.
4. The method of claim 2 wherein the cerebral ischemia is stroke.
5. The method of any of claims 1 to 4 wherein the patient is suspected to have suffered an ischemic event.
6. The method of claim 5 wherein the determination is carried out within the first 6 hours after the onset of the suspected ischemic event, before the raising of the levels of at least one necrotic marker or before the patient has received any treatment for the suspected ischemic event.
7. A method for predicting the progression of ischemia in a patient having suffered an ischemic event or for determining the prognosis of a patient having suffered an ischemic event, comprising determining in a sample of said patient the levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or

glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues, wherein decreased levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues with respect to a reference
5 value are indicative that the ischemia is progressing or of a poor prognosis of the patient and wherein the sample is plasma, serum or blood.

8. The method according to claim 7 wherein the ischemic event is a myocardial ischemic event.

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9. The method according to claim 8 wherein the myocardial ischemic event is a ST-elevation myocardial infarction.

10. The method according to any of claims 7 to 9 wherein the prognosis of the
15 patient is determined as the risk of 6 months recurrence, the risk of in hospital mortality or the risk of 6-months mortality.

11. A method for determining the risk that a patient suffering from stable coronary disease suffers a recurrent ischemic event comprising determining in a
20 sample of said patient the levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues, wherein decreased levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid
25 residues with respect to a reference value are indicative that the patient shows an increased risk of suffering a recurrent ischemic event and wherein the sample is plasma, serum or blood.

12. The method of claim 11 wherein the patient suffering from stable coronary
30 disease had suffered acute coronary syndrome prior to the stable coronary disease.

13. The method of claim 11 or 12 wherein the recurrent ischemic event is an

acute coronary syndrome, a stroke or a transient ischemic event.

14. The method of any of claims 1 to 13 wherein the level of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues correspond to the level of Apo J capable of specifically binding to the *Datura stramonium* lectin or wherein levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic acid residues correspond to the levels of Apo J capable of specifically binding to the *Triticum vulgare* lectin.
15. A kit comprising
- a. A first reagent which is a lectin which specifically binds to a glycan residue selected from N-acetylglucosamine and sialic acid and
 - b. A second reagent which is capable of specifically binding to the Apo J polypeptide,
- wherein the first reagent is immobilized.
16. The kit of claim 15 wherein the lectin is the lectin from *Triticum vulgare* or the lectin from *Datura stramonium* or a combination thereof.
17. The kit of claim 15 or 16 wherein the second reagent is an antibody or a fragment thereof containing its antigen-binding region.
18. The kit of any of claims 15 to 17 wherein the second reagent contains a label.
19. The kit of claim 18 wherein the label can be detected by a change in at least one of its chemical, electrical or magnetic properties.
20. The kit of any of claims 15 to 17 further comprising a third reagent which is capable of specifically binding to the second reagent.
21. The kit of claim 20 wherein the third reagent is an antibody or a fragment

thereof containing its antigen-binding region.

22. Use of a kit according to any of claims 15 to 21 for the diagnosis of ischemia or ischemic tissue damage in a patient, for determining the progression of ischemia in a patient having suffered an ischemic event, for the prognosis of a patient having suffered an ischemic event or for determining the risk that a patient suffering from stable coronary disease suffers a recurrent ischemic event.

23. A method for the determination of glycosylated Apo J in a sample comprising the steps of:

(i) Contacting the sample with a lectin which specifically binds to a glycan residue present in glycosylated Apo J under conditions adequate for the formation of a complex between the glycosylated Apo J in the sample and the lectin, wherein the lectin which specifically binds to a glycan residue is immobilized; and

(ii) Detecting the amount of complex containing the lectin and the glycosylated Apo J.

24. The method according to claim 23 wherein the lectin used in step (i) is a lectin which specifically binds to N-acetylglucosamine or a lectin which specifically binds to N-acetylglucosamine and sialic acid.

25. The method according to claim 23 or 24 wherein the lectin which specifically binds to N-acetylglucosamine is the lectin from *Datura stramonium* or wherein the lectin which specifically binds to N-acetylglucosamine and sialic acid is the lectin from *Triticum vulgaris*.

26. The method according to any of claims 23 to 25 wherein the complex in step (ii) is detected using a reagent that specifically binds to the Apo J polypeptide.

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27. The method of claim 26 wherein the reagent that specifically binds to the Apo J polypeptide is an antibody or a fragment thereof containing its antigen-

binding region.

28. The method of claim 27 wherein the antibody is coupled to a detectable label.

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29. The method of claim 28 wherein the label can be detected by means of a change in at least one of its chemical, electrical or magnetic properties.

30. The method of any of claims 23 to 27 wherein the detection is carried out
10 using a reagent which is capable of specifically binding to the reagent that specifically binds to the Apo J polypeptide.

31. The method of claim 30 wherein the third reagent which is capable of specifically binding to the reagent that specifically binds to the Apo J polypeptide is
15 an antibody or a fragment thereof containing its antigen-binding region.

32. The method of any of claims 1 to 14 wherein the determination of the level of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) residues or of the levels of glycosylated Apo J containing N-acetylglucosamine (GlcNAc) and sialic
20 acid residues are determined using a kit as defined in any of claims 15 to 21 or a method as defined in any of claims 23 to 31.