Claims

1. Device (100, 101, 102, 103) for capture of cellular biomarkers circulating in an animal or human biological flow, characterised in that it is suitable for use *in vivo* and in that it comprises a means of filtration (104, 120) intended to retain the said cellular biomarkers, the said means of filtration comprising at least one through-aperture (121) the dimensions of which are suitable for retaining the said cellular biomarkers and being integral with a support (105, 110), the support taking the form of a hollow component and the means of filtration (120) forming the bottom of the support.

2. Device for capture of cellular biomarkers according to claim 1, characterised in that the at least one through-aperture (121) has at least one transverse dimension lying between 1 µm and 200 µm, preferably between 5 µm and 25 µm.

3. Device for capture of cellular biomarkers according to either claim 1 or claim 2, characterised in that the at least one aperture (121) is substantially circular or substantially oval or substantially polygonal or takes the form of a crack.

4. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that the means of filtration (104, 120) is flat.

5. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that the support (110) has a rotational symmetry about an axis (X-X') which is total or truncated along a plane parallel to the axis (X-X').

6. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that it has a rotational symmetry about an axis (X-X').

7. Device for capture of cellular biomarkers according to any of claims 1 to 5, characterised in that the support (110) takes the form of a hollow

cylinder, truncated along a plane parallel to the axis (X-X') of the cylinder, the means of filtration (120) forming the bottom of the truncated cylinder.

8. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that the support (110) contains at least one substantially circular or substantially oval or substantially polygonal through-aperture or takes the form of a crack.

9. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that it is made of a photosensitive resin.

10. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that it is made of a biocompatible material or in that it is covered with a biocompatible material.

11. Device for capture of cellular biomarkers according to any of the preceding claims, characterised in that it is functionalised by means of an anti-thrombotic compound.

12. Device (300) for sampling of cellular biomarkers, characterised in that it comprises at least one device (100, 101, 102, 103) for capture of cellular biomarkers according to any of claims 1 to 11 attached onto a means of introduction (200) of the said capture device into a biological flow vessel.

13. Device for sampling of cellular biomarkers according to claim 12, characterised in that the means of introduction of the said capture device into the blood circulation comprises a strip (200).

14. Device for sampling of cellular biomarkers according to claim 13, characterised in that the strip comprises a metallic alloy or a composite material based on resin and fibres.

15. Device for sampling of cellular biomarkers according to any of claims 12 to 14, characterised in that the means of introduction (200) comprises a first means of protection of the means of filtration, intended to avoid detachment of the means of filtration.

16. Device for sampling of cellular biomarkers according to claim 15, characterised in that the first means of protection comprises at least one stud (210) attached onto the means of introduction (200).

17. Device for sampling of cellular biomarkers according to any of claims 12 to 16, characterised in that the means of introduction (200) contains a second means of protection intended to protect a blood vessel into which it is brought to be introduced.

18. Device for sampling of cellular biomarkers according to any of claims 15 or 17, characterised in that it contains an end piece (220) attached to the extremity (201) of the means of introduction (200) and forming a first and/or a second means of protection.

19. Device for sampling of cellular biomarkers according to claim 18, characterised in that the end piece (220) comprises at least one arch (221, 222).

20. Device for sampling of cellular biomarkers according to either claim 15 or claim 17, characterised in that the means of introduction (200) contains in the vicinity of its extremity (201) at least one longitudinal arch (231, 232) forming a first and/or a second means of protection.

21. Device for sampling of cellular biomarkers according to any of claims 12 to 20, characterised in that it is covered with a biocompatible material.

22. Device for sampling of cellular biomarkers according to any of claims 12 to 21, characterised in that it is functionalised by means of an anti-thrombotic compound.

23. Device for sampling of cellular biomarkers according to any of claims 12 to 22, characterised in that it includes a means of gripping so as to render it suitable for use in a catheter.

24. Set for sampling of cellular biomarkers comprising a catheter and a sampling device according to any of claims 12 to 23, the said device being inserted into the catheter.

25. Device for sampling of cellular biomarkers according to any of claims 12 to 23 intended to be utilised for the diagnosis or therapy of cancer.

26. Device for capture of cellular biomarkers according to any of claims 1 to 11 for use for diagnostic or therapeutic purposes.

27. Device for sampling of cellular biomarkers according to any of claims 12 to 23 for use for diagnostic or therapeutic purposes.

28. Set for sampling of cellular biomarkers according to claim 24 for use for diagnostic or therapeutic purposes.