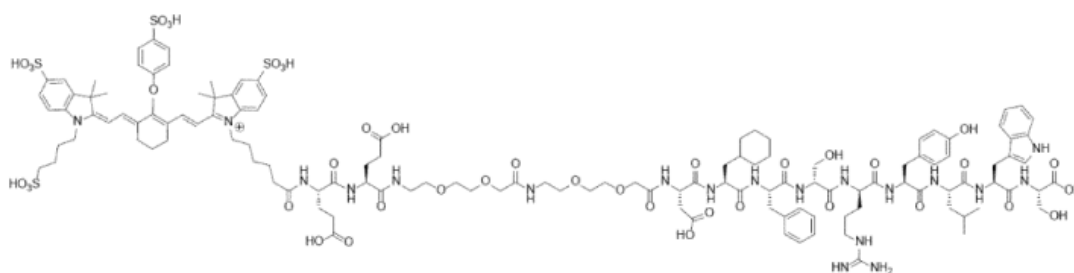


Claims

- 5 - a fluorophore;
 - a peptide binding to uPAR; and
 - a linker group,

wherein the uPAR-targeting peptide conjugate has the formula



3. The uPAR-targeting peptide conjugate according to claim 1 or 2, wherein the fluorophore has a NIR-light absorption in the range of 700-1200 nm.

5. The uPAR-targeting peptide conjugate according to any one of claims 1-3 for use in optical imaging or fluorescence imaging (FLI) of a disease having high uPAR expression.

6. The uPAR-targeting peptide conjugate for use according to any one of claims 4-5, wherein the disease is selected from the group consisting of cancer and inflammatory diseases having high uPAR expression.
- 5 7. The uPAR-targeting peptide conjugate for use according to any one of claims 4-5, wherein the uPAR-targeting peptide conjugate is arranged to be administered to a subject in a dose of 0.1-1000 mg per person.
8. A composition comprising the uPAR-targeting peptide conjugate according to any one of claims 1-3 together with at least one pharmaceutically acceptable carrier or excipient.
- 10 9. The composition according to claim 8 for use in detection and/or quantification of a disease.
- 15 10. The composition according to claim 8 for use in diagnosis of a disease.
11. The composition according to claim 8 for use in optical imaging or fluorescence imaging (FLI) of a disease having high uPAR expression.
- 20 12. The composition for use according to any one of claims 9-11, wherein the disease is selected from the group consisting of cancer and inflammatory diseases having high uPAR expression.
- 25 13. The composition for use according to claim 12, wherein the cancer is selected from the group consisting of gliomas, glioblastomas, pancreatic cancer, oropharyngeal cancer, head-and-neck cancer, breast cancer, lung cancer, colorectal cancer, esophageal cancer, gastric cancer, liver cancer, neuroendocrine tumors, neuroendocrine carcinomas, prostate cancer.
- 30 14. The composition for use according to claim 12, wherein the cancer is selected from the group consisting of gliomas, glioblastomas, pancreatic

cancer, head-and-neck cancer, colorectal cancer, lung cancer and breast cancer.

15. The composition for use according to claim 12, wherein the cancer is
5 gliomas, glioblastomas or breast cancer.

16. The composition for use according claim 12, wherein the inflammatory diseases are selected from the group consisting of arthritis and atherosclerosis.

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17. The composition according to claim 8 for use in delineation of cancer tumors or metastases having high uPAR expression.

18. The composition according to claim 8 for use in fluorescence guided
15 tumor or metastasis resection having high uPAR expression.

19. The composition for use according to any one of claims 9-18, wherein the pharmaceutical composition is arranged to be administered intravenously, locally or topically.

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20. The composition for use according to any one of claims 9-19, wherein the concentration of the uPAR-targeting peptide conjugate is 0.1-1000 mg per dosage unit.

25 21. The uPAR-targeting peptide conjugate according to any one of claims 1-3 for use in an optical imaging method comprising the steps of:

(i) administering of the uPAR-targeting peptide conjugate to a target tissue;

(ii) allowing time for the uPAR-targeting peptide conjugate to accumulate
30 in the target tissue and establishing a tumor/target tissue-to-background ratio;

(iii) illuminating the target tissue with near infrared light of a wavelength absorbable by the fluorophore;

(iv) detecting fluorescence emitted by the fluorophore and forming an optical image of the target tissue having high uPAR expression.

22. The uPAR-targeting peptide conjugate according to claim 21, wherein the
5 time for the uPAR-targeting peptide conjugate to accumulate in the target tissue to obtain a sufficiently high tumor/target tissue-to-background ratio, TBR, is at the most 360 minutes after administration.

23. The uPAR-targeting peptide conjugate according to claim 21 or 22,
10 wherein the tumor/target tissue-to-background ratio is at least 2.

24. The uPAR-targeting peptide conjugate according to any one of claims 21-23, wherein the optical imaging method is performed *in vivo*.

15 25. The uPAR-targeting peptide conjugate according to any one of claims 21-23, wherein the optical imaging method is performed *in vitro*.

26. Use of the uPAR-targeting peptide conjugate according to any one of claims 1-3, or the composition according to claim 8 for optical imaging of
20 cancer having high uPAR expression.

27. A kit of parts for preparing a unit dosage of a uPAR-targeting peptide conjugate preparation, comprising:

- a unit dosage amount of the composition according to claim 8;
- 25 - a unit dosage amount of at least one pharmacologically active agent;
- means for separating the unit dosage amounts from each other prior to dispensing; and
- means for dispensing the unit dosage amounts.

30 28. The kit of parts according to claim 27, comprising a unit dosage amount of an adjuvant.

29. The kit of parts according to claim 27 or 28, comprising a unit dosage of at least one pharmaceutically acceptable carrier or excipient.

5 30. The kit of parts according to any one of claims 27-29, wherein the unit dosage amount of the composition according to claim 8 is in the range of 0.1-1000 mg.

10 31. The kit of parts according to any one of claims 29-30, wherein the unit dosage amount of the composition according to claim 8 is in a total volume range of 0.1-10.0 mL.