

Claims

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

[illegible]

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4. The uPAR-targeting peptide conjugate according to any one of claims 1-3,
20 wherein the uPAR-binding affinity is less than 100 nM.

25 6. The uPAR-targeting peptide conjugate according to any one of claims 1-4
for use in optical imaging or fluorescence imaging (FLI) of a disease.

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

15. The pharmaceutical composition for use according to claim 10 or 11, 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.
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16. The pharmaceutical composition for use according to any one of claims 10-11, wherein the cancer is gliomas, glioblastomas or breast cancer.
17. The pharmaceutical composition for use according claim 13, wherein the inflammatory diseases are selected from the group consisting of arthritis and atherosclerosis.
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18. The pharmaceutical composition according to claim 9 for use in delineation of cancer tumors or metastases.
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19. The pharmaceutical composition according to claim 9 for use in fluorescence guided tumor or metastasis resection.
20. The pharmaceutical composition for use according to any one of claims 11-21, wherein the pharmaceutical composition is administered intravenously, locally or topically.
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21. The pharmaceutical composition for use according to any one of claims 9-20, wherein the concentration of the uPAR-targeting peptide conjugate is 0.1-1000 mg per dosage unit.
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22. The uPAR-targeting peptide conjugate according to any one of claims 1-4 for use in an optical imaging method comprising the steps of:
- (i) administering of the uPAR-targeting peptide conjugate to a target tissue;
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- (ii) allowing time for the uPAR-targeting peptide conjugate to accumulate 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.

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

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

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25. The uPAR-targeting peptide conjugate according to any one of claims 22-24, wherein the method is performed *in vivo*.

26. The uPAR-targeting peptide conjugate according to any one of claims 22-24, wherein the method is performed *in vitro*.

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27. Use of the uPAR-targeting peptide conjugate according to any one of claims 1-4, or the pharmaceutical composition according to claim 9 for optical imaging of cancer.

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

- a unit dosage amount of the pharmaceutical composition according to claim 9;
- a unit dosage amount of at least one a pharmacologically active agent
- means for separating the unit dosage amounts from each other prior to dispensing; and
- means for dispensing the unit dosage amounts.

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

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

31. The kit of parts according to any one of claims 28-30, wherein the unit dosage amount of the pharmaceutical composition according to claim 9 is in the range of 0.1-1000 mg.

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32. The kit of parts according to any one of claims 30-31, wherein the unit dosage amounts are in a total volume range of 0.1-10.0 mL.