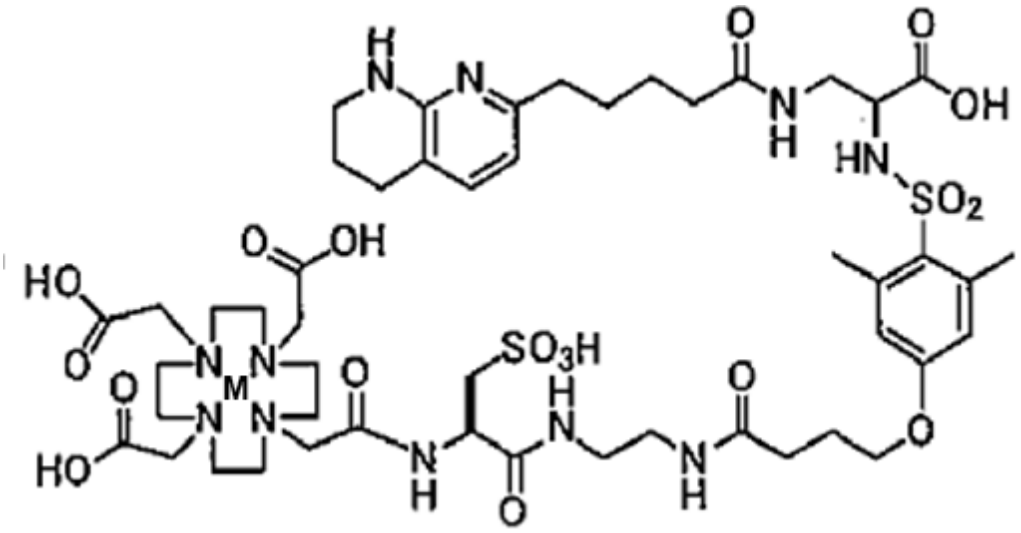
CLAIMS

1. Use of ~~A~~ a pharmaceutical composition ~~of~~ comprising a radiolabelled αvβ3 and/or αvβ5 integrins antagonist ~~,~~in the manufacture of a medicament for ~~use in~~ treating tumors overexpressing αvβ3 and/or αvβ5 integrins in a human subject, wherein the tumors are selected from the group consisting of glioblastoma, head and neck cancer, gastroesophageal adenocarcinoma, colorectal cancer, breast cancer, small cell lung cancer, non-small cell lung cancer, malignant melanoma, gastric cancer, pancreatic cancer, in particular pancreatic ductal adenocarcinoma, prostate cancer and brain metastasis, in particular brain metastasis from breast cancer and melanoma, ~~in a human subject,~~ wherein said pharmaceutical composition comprises

   [i] a radiolabelled αvβ3 and/or αvβ5 integrins antagonist of formula I:



(I)

wherein:

M is a therapeutic radiometal ~~suitable for therapy~~, preferably 177-Lutetium, and

   [ii] one or more pharmaceutically acceptable excipients,

wherein said subject ~~has~~ had been selected for the treatment by SPECT/CT or PET/CT or SPECT/MRI, PET/MRI imaging with the same αvβ3 and/or αvβ5 integrins antagonist as defined for the treatment but wherein M is ~~a radiometal suitable for imaging, preferably~~ 68-Gallium, 67-Gallium or 64-Copper, more preferably 68-Gallium.

2. The ~~pharmaceutical composition for~~ use according to claim 1, wherein tumors overexpressing αvβ3 and/or αvβ5 integrins are selected from the group consisting of

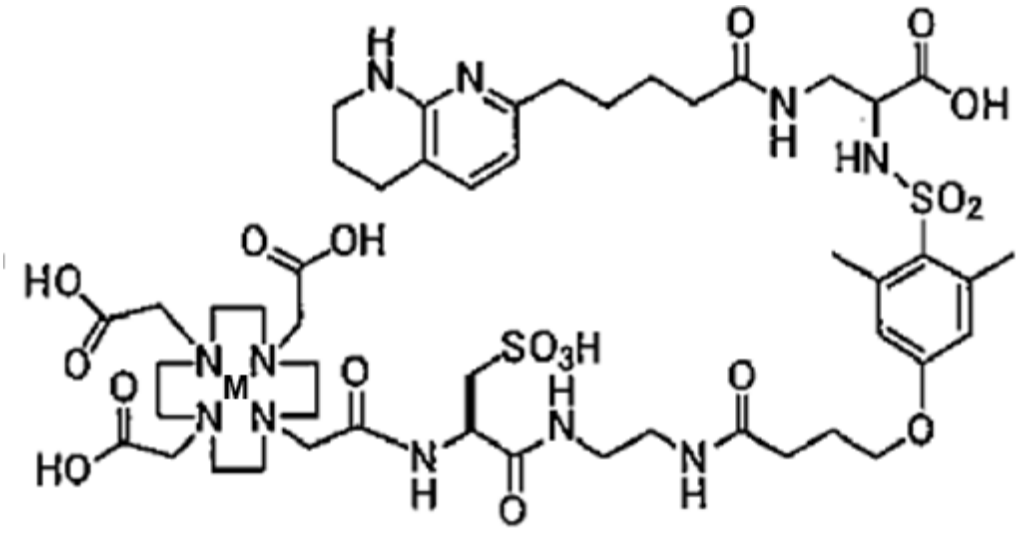
glioblastoma, malignant melanoma, brain metastasis from breast cancer and melanoma, preferably malignant melanoma.

3. The ~~pharmaceutical composition for~~ use according to claim 1 or 2, wherein the pharmaceutical composition is ~~suitable~~ formulated for injection, preferably for infusion.

4. The ~~pharmaceutical composition for~~ use according to any of claims 1 to 3, wherein, a subject ~~has~~ had been selected for the treatment by evaluating [^{68}Ga]-labeled αvβ3 and/or αvβ5 integrins antagonist uptake in the lesions as determined by PET/MRI or PET/CT or SPECT/CT or SPECT/MRI imaging in said subject.

5. Use of ~~A~~ a pharmaceutical composition ~~of~~ comprising a radiolabelled αvβ3 and/or αvβ5 integrins antagonist~~,~~ in the manufacture of an ~~for use as a~~ imaging agent for PET/CT or PET/MRI or SPECT/CT or SPECT/MRI imaging in determining whether a subject can be selected for a treatment with radiolabelled αvβ3 and/or αvβ5 integrins antagonist for treating tumors overexpressing αvβ3 and/or αvβ5 integrins, wherein the tumors are selected from the group consisting of glioblastoma, head and neck cancer, colorectal cancer, breast cancer, small cell lung cancer, non-small cell lung cancer, malignant melanoma, gastric cancer, pancreatic cancer, prostate cancer and brain metastasis, in particular brain metastasis from breast cancer and melanoma, wherein said pharmaceutical composition comprises

[i] a radiolabelled αvβ3 and/or αvβ5 integrins antagonist of formula I:



(I)

wherein:

M is a radiometal for use as imaging agent in SPECT/CT or PET/CT or SPECT/MRI, PET/MRI imaging, for example 68-Gallium, and

[ii] one or more pharmaceutically acceptable excipients,

wherein said subject is selected for the treatment by evaluating uptake of said radiolabelled αvβ3 and/or αvβ5 integrins antagonist in said tumors overexpressing αvβ3 and/or αvβ5 integrins by PET/CT or PET/MRI or SPECT/CT or SPECT/MRI imaging in said subject.

6. The ~~pharmaceutical composition for~~ use according to claim 5, wherein tumors overexpressing αvβ3 and/or αvβ5 integrins are selected from the group consisting of glioblastoma, gastroesophageal adenocarcinoma, malignant melanoma, pancreatic ductal adenocarcinoma, brain metastasis from breast cancer and melanoma, preferably malignant melanoma.

7. A method for determining whether a human patient having tumor lesions can be selected for a treatment with a radiolabelled αvβ3 and/or αvβ5 integrins antagonist, said method comprising the steps of:

~~(i) administering an efficient amount of the pharmaceutical composition as defined in claims 5 or 6 as an imaging agent for imaging the uptake of the radiolabelled αvβ3 and/or αvβ5 integrins antagonist in said tumor lesions,~~

(i) acquiring an image by PET/MRI or PET/CT or SPECT/CT or SPECT/MRI of ~~said~~ the patient who had been administered an efficient amount of an imaging agent as defined in claims 5 or 6 for imaging the uptake of the radiolabelled αvβ3 and/or αvβ5 integrins antagonist in said tumor lesions, and

(ii) determining the uptake of the radiolabelled αvβ3 and/or αvβ5 integrins antagonist based on the image acquired at step (ii) in said tumor lesions.

8. The method of claim 7, further comprising a step of ~~treating~~ tumors overexpressing αvβ3 and/or αvβ5 integrins to be treated, whereby ~~by administering~~ a therapeutically efficient amount of the pharmaceutical composition of claims 1 to 3 is to be administered.

9. The method according to any of claim 7 or 8, wherein the pharmaceutical composition of claims 5 or 6 is to be administered between 6 hours and 15 minutes, preferably

between 3 hours and 25 minutes, before PET/CT or PET/MRI or SPECT/CT or SPECT/MRI imaging.

10. The method according to any of claims 7 to 9, wherein the pharmaceutical composition of claims 5 or 6 is to be administered at an amount between 150 MBq and 250 MBq.

11. The method of anyone of claims 7 to 10, wherein the pharmaceutical composition of claims 5 or 6 is ~~suitable~~ formulated for injection, preferably a bolus injection.

12. The method of any one of claims 8 to 11, wherein ~~a therapeutically efficient amount of a~~the pharmaceutical composition of any one of claims 1 to 3 is to be administered at least two weeks after step (i) of ~~administering~~ the imaging agent had been administered.