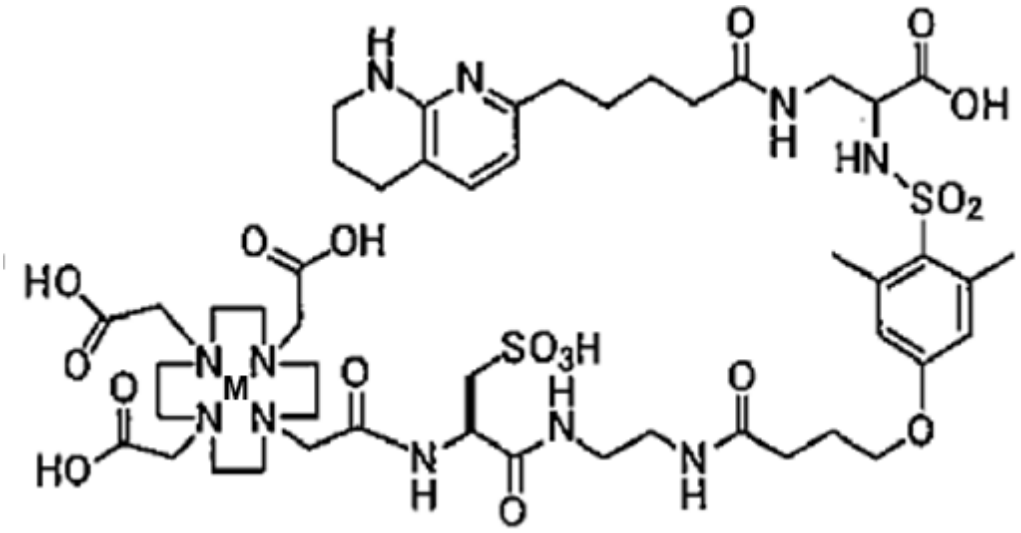
CLAIMS

1. Use of a pharmaceutical composition comprising a radiolabelled αvβ3 and/or αvβ5 integrins antagonist in the manufacture of a medicament for 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, wherein said pharmaceutical composition comprises

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



(I)

   wherein:

   M is a therapeutic radiometal, preferably 177-Lutetium, and

   [ii] one or more pharmaceutically acceptable excipients,

   wherein said subject 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 68-Gallium, 67-Gallium or 64-Copper, more preferably 68-Gallium.

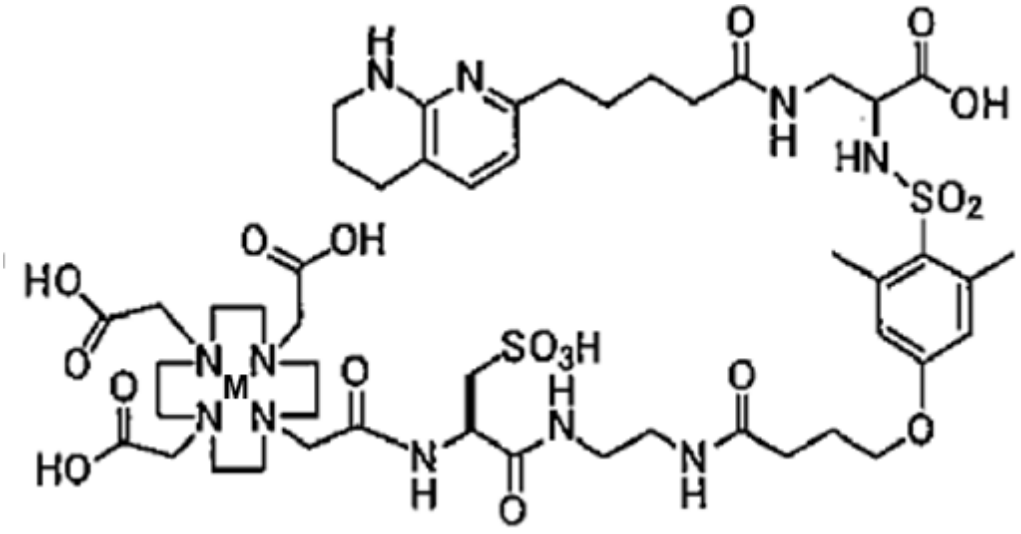
2. The use according to claim 1, wherein tumors overexpressing αvβ3 and/or αvβ5 integrins are selected from the group consisting of glioblastoma, malignant melanoma, brain metastasis from breast cancer and melanoma, preferably malignant melanoma.

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

4. The use according to any of claims 1 to 3, wherein, a subject 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 pharmaceutical composition comprising a radiolabelled αvβ3 and/or αvβ5 integrins antagonist in the manufacture of an 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 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) acquiring an image by PET/MRI or PET/CT or SPECT/CT or SPECT/MRI of 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 tumors overexpressing αvβ3 and/or αvβ5 integrins to be treated, whereby 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 formulated for injection, preferably a bolus injection.

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