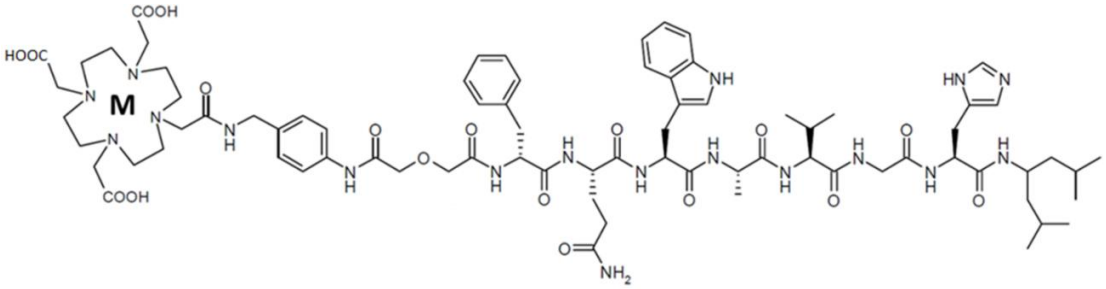
CLAIMS

1. Use of a pharmaceutical composition, in the manufacture of a medicament for the treatment of GRPR-positive tumors in a human subject, wherein said pharmaceutical composition comprises

A compound of formula (I):



(I)

wherein:

M is ^{177}Lu; and,

- one or more pharmaceutically acceptable excipients.

wherein said subject has been selected for the treatment by evaluating uptake of a compound of formula (I) wherein M is ^{68}Ga, in the tumors as determined by positron emitting tomography (PET) / computed tomography (CT) or PET/ magnetic resonance imaging (MRI) , and wherein at least 30% of the tumors as detected by imaging in said subject without a compound of formula (I) by MRI, CT, SPECT or PET, are also identified by uptake of a compound of formula (I) wherein M is ^{68}Ga, as determined by PET/MRI or PET/CT imaging in said subject.

2. The use according to claim 1 wherein the pharmaceutical composition is a solution for infusion.

3. The use according to claim 1 or 2, wherein, a subject has been selected for the treatment by evaluating uptake of a compound of formula (I) wherein M is ^{68}Ga in the lesions as determined by PET/MRI or PET/CT imaging in said subject.

4. The use according to Claim 3, wherein a subject selected for the treatment fulfils at last the following condition: at least 50% of the lesions as detected by imaging in said subject by MRI, CT, SPECT or PET, are also identified by of a compound of

formula (I) wherein M is ^{68}Ga as determined by PET/MRI or PET/CT imaging in said subject.

5. The use according to any of claims 1 to 4, wherein said subject has GRPR-positive solid tumors selected from the group consisting of gastrointestinal stromal tumor (GIST), neuroblastoma, glioblastoma, breast, prostate, lung (small cell and non-small cell), colon-rectum, and renal cancer.

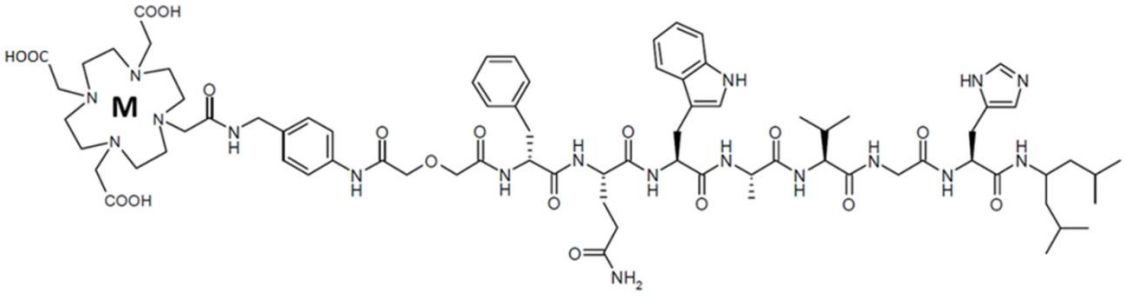
6. The use according to claim 5, wherein the subject has gastrointestinal stromal tumors.

7. A method for determining whether a human patient having tumors can be selected for a treatment with a radiolabelled GRPR antagonist, said method comprising the steps of :

(i) acquiring an image by PET/MRI or PET/CT of said patient, and

(ii) comparing with a control image,

wherein the patient is to be administered an efficient amount of a compound of formula (I)



(I)

wherein M is ^{68}Ga

as a contrast agent for imaging the uptake of said radiolabelled GRPR antagonist prior to step (i); wherein at least 30% of the tumors as detected by imaging in said subject without a compound of formula (I) by MRI, CT, SPECT or PET, are also identified by uptake of a compound of formula (I) wherein M is ^{68}Ga, as determined by PET/MRI or PET/CT imaging in said subject.

8. The method of Claim 7, further comprising a therapeutically efficient amount of a compound of formula (I) but having M is ^{177}Lu, to be administered.

9. The method of claim 7 or 8, wherein the therapeutic agent is to be administered at least two weeks after the administration of an efficient amount of a of a compound of formula (I) wherein M is ^{68}Ga as a contrast agent for imaging the uptake of said compound of formula (I).

10. The method of any one of claims 7-9, wherein the subject has gastrointestinal stromal tumors.