## Claims

1. A conjugate of Formula I

$[^{177}Lu] - R^1 - R^2 - R^3$ (I)

wherein

$R^1$ metal chelator suitable for chelating $[^{177}Lu]$,

$R^2$ spacer linked to N-terminal of $R^3$ or a covalent bond,

$R^3$ bombesin analog peptide antagonist of sequence from seq 1 to 4

Seq 1: D-Phe-Gln-Trp-Ala-Val-Gly-His-Sta-Leu-$NH_2$;

Seq 2: D-Phe-Gln-Trp-Ala-Val-Gly-His-Leuψ(CHOH-$CH_2$)-$(CH_2)_2$-$CH_3$;

Seq 3: D-Phe-Gln-Trp-Ala-Val-Gly-His-Leuψ($CH_2NH$)-Phe-$NH_2$; and

Seq 4: D-Phe-Gln-Trp-Ala-Val-Gly-His-Leuψ($CH_2NH$)-Cys-$NH_2$.

and pharmaceutically acceptable salt.

2. The conjugate according to claim 1 wherein $R^1$ metal chelator suitable for chelating $[^{177}Lu]$ is DOTA-, NODASA-, NODAGA-, NOTA-, DTPA-, EDTA-, TETA-, or TRITA- based chelators or their close analogs.

3. The conjugate according to claim 1 that is $[^{177}Lu]$-DOTA-4-amino-1-carboxymethylpiperidine-D-Phe-Gln-Trp-Ala-Val-Gly-His-Sta-Leu-$NH_2$.

4. A composition comprising a compound of Formula I according to preceding claims and and pharmaceutically acceptable carrier or diluent.

5. A conjugate of formula I or a pharmaceutical composition thereof for radiotherapy of cancer.

6. A method for radiotherapy comprises the steps of administering to a subject in need thereof compound of formula I or composition thereof in therapeutically effective amounts, and after localization of compound of formula I or composition in the desired tissues, subjecting the tissues to irradiation to achieve the desired therapeutic effect.

7. A conjugate according to claim 5 or a method according to claim 6 wherein the cancer is a tumor and/or metastases located in or originated from prostate, lung or breast.

8. A method for obtaining a bombesin analog peptide antagonist conjugate of formula I

$$[^{177}Lu] - R^1 - R^2 - R^3 \qquad (I)$$

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$R^1$ metal chelator suitable for chelating $[^{177}Lu]$,

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Seq 4: D-Phe-Gln-Trp-Ala-Val-Gly-His-Leuψ($CH_2NH$)-Cys-$NH_2$.

comprising the step

- Optionally coupling a spacer $R^2$ to a bombesin analog peptide antagonist $R^3$ for obtaining $R^2 - R^3$ (step 1),
- Coupling $R^2 - R^3$ to a suitable chelator $R^1$ (step 2) and
- Radiochelating the bombesin analog peptide antagonist conjugate $R^1 - R^2 - R^3$ with $[^{177}Lu]$ (step 3).

9. A kit comprising a sealed vial containing a predetermined quantity of a compound having general chemical Formula (I) according to claims 1 to 5 and suitable salts of inorganic or organic acids thereof, hydrates, complexes, esters, amides, and solvates thereof.

## Claims

1. A conjugate of Formula I

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Seq 4: D-Phe-Gln-Trp-Ala-Val-Gly-His-Leuψ($CH_2NH$)-Cys-$NH_2$.

and pharmaceutically acceptable salt.

2. The conjugate according to claim 1 wherein $R^1$ metal chelator suitable for chelating $[^{177}Lu]$ is DOTA-, NODASA-, NODAGA-, NOTA-, DTPA-, EDTA-, TETA-, or TRITA- based chelators or their close analogs.

3. The conjugate according to claim 1 that is $[^{177}Lu]$-DOTA-4-amino-1-carboxymethylpiperidine-D-Phe-Gln-Trp-Ala-Val-Gly-His-Sta-Leu-$NH_2$.

4. A composition comprising a compound of Formula I according to preceding claims and and pharmaceutically acceptable carrier or diluent.

5. A conjugate of formula I or a pharmaceutical composition thereof for radiotherapy of cancer.

6. A compound of formula I or composition thereof for use in radiotherapy comprising the steps of administering to a subject in need thereof said compound or composition thereof in therapeutically effective amounts, and after localization of compound of formula I or composition in the desired tissues, subjecting the tissues to irradiation to achieve the desired therapeutic effect.

7. A conjugate according to claim 5 or a method according to claim 6 wherein the cancer is a tumor and/or metastases located in or originated from prostate, lung or breast.

8. A method for obtaining a bombesin analog peptide antagonist conjugate of formula I

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comprising the step

- Optionally coupling a spacer $R^2$ to a bombesin analog peptide antagonist $R^3$ for obtaining $R^2 - R^3$ (step 1),
- Coupling $R^2 - R^3$ to a suitable chelator $R^1$ (step 2) and
- Radiochelating the bombesin analog peptide antagonist conjugate $R^1 - R^2 - R^3$ with [$^{177}$Lu] (step 3).

9. A kit comprising a sealed vial containing a predetermined quantity of a compound having general chemical Formula (I) according to claims 1 to 5 and suitable salts of inorganic or organic acids thereof, hydrates, complexes, esters, amides, and solvates thereof.