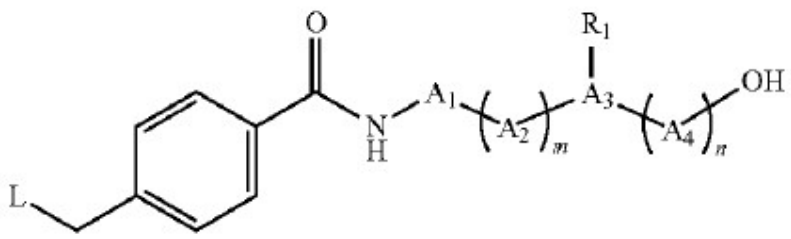
CLAIMS

1. A compound of formula (1), or a pharmacologically acceptable salt thereof:

formula (1)



wherein

A_1 is a residue of phenylalanine, methionine, valine, leucine, isoleucine, proline, tyrosine, glycine, alanine, or tryptophan,

A_2 is a residue of glycine, phenylalanine, methionine, valine, leucine, isoleucine, proline, tyrosine, alanine, or tryptophan,

m is an integer of 0 to 3,

A_3 is an amino acid residue having an amino group or a carboxy group on a side chain thereof,

A_4 is an amino acid residue,

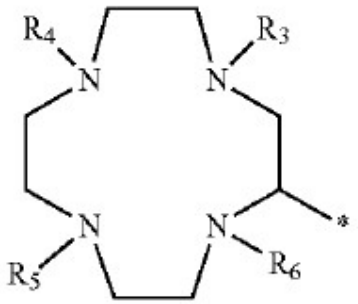
n is an integer of 0 to 3,

R_1 is a group binding to the amino group or the carboxy group on the side chain of A_3 and having a functional group capable of binding to a target molecule recognition element or a linking group thereof, the functional group is at least one selected from the group consisting of a carboxy group or an active ester thereof, a group having a C=C bond, a carbamoyl group, an isothiocyanate group and an amino group, or a hydrogen atom of the amino group or the carboxy group on the side chain of A_3, provided that R_1 optionally forms a heterocyclic group having 3 to 10 carbon atoms including a

nitrogen atom of the amino group on the side chain of A_3 as a ring-constituting atom, and

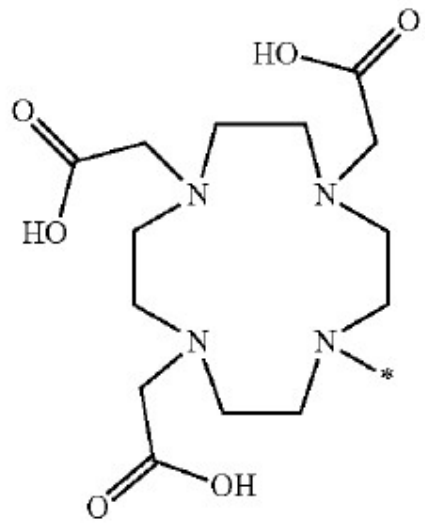
L is formula (L1):

formula (L1)



wherein R_3, R_4, R_5, and R_6 each independently is a hydrogen atom, a $-CH_2COOR_{10}$ group, or a hydrocarbon group having 1 to 8 carbon atoms, R_{10} is a hydrogen atom or a hydrocarbon group having 1 to 8 carbon atoms, and the symbol * represents a binding site, provided that at least three of R_3, R_4, R_5, and R_6 is a $-CH_2COOH$ group, or formula (L2):

formula (L2)



wherein the symbol * represents a binding site.

2. The compound or pharmacologically acceptable salt

thereof according to claim 1, wherein an amino acid sequence of A_1 to A_4 is identical to a part of a renal brush border membrane enzyme substrate.

3. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein three of R_3, R_4, R_5, and R_6 each is a $-CH_2COOH$ group.

4. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein A_3 is a residue of lysine, ornithine, or arginine.

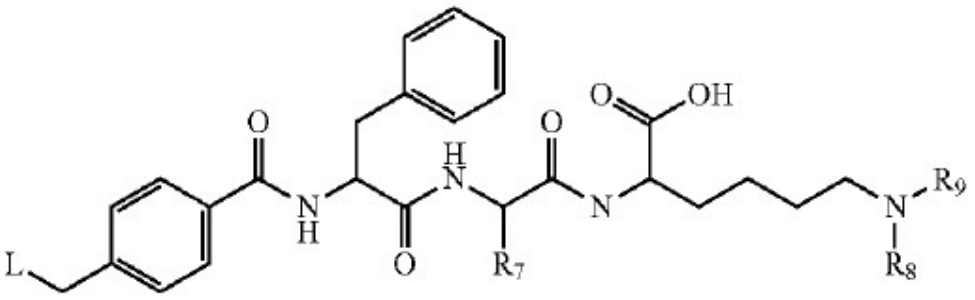
5. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein m is 1.

6. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein n is 0.

7. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein

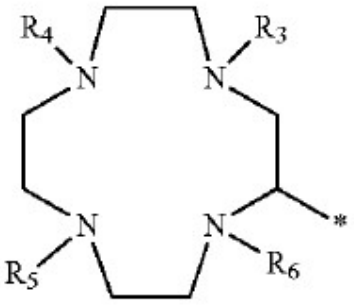
the compound is formula (1a):

formula (1a)



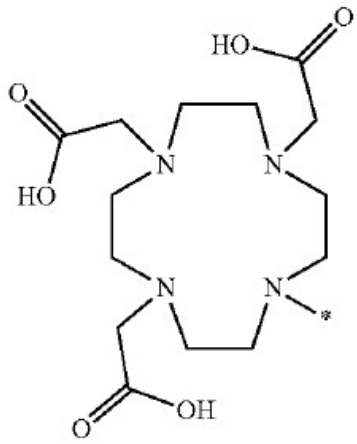
wherein is formula (L1):

formula (L1)



wherein R_3, R_4, R_5, and R_6 each independently is a hydrogen atom, a $-CH_2COOR_{10}$ group, or a hydrocarbon group having 1 to 8 carbon atoms, R_{10} is a hydrogen atom or a hydrocarbon group having 1 to 8 carbon atoms, and the symbol * represents a binding site, provided that at least three of R_3, R_4, R_5, and R_6 each is a $-CH_2COOH$ group, or formula (L2):

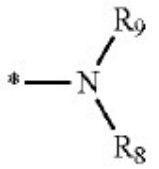
formula (L2)



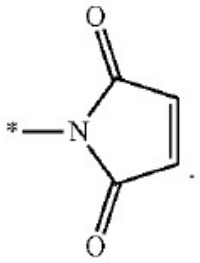
wherein the symbol * represents a binding site, R_7 is a hydrogen atom or a methyl group, and R_8 and R_9 each independently is a hydrogen atom, or an acyl group having 2 to 20 carbon atoms in total and having a functional group, an alkyl group having 2 to 20 carbon atoms in total and having a functional group, an alkylcarbamoyl group having 2 to 20 carbon atoms in total and having a

functional group, or an alkylthiocarbamoyl group having 2 to 20 carbon atoms in total and having a functional group, the functional group is at least one selected from the group consisting of a carboxy group or an active ester thereof, a group having a C=C bond, a carbamoyl group, an isothiocyanate group and an amino group,

provided that R_8 and R_9 optionally form a heterocyclic ring including the adjacent nitrogen atom, and in this case, a group

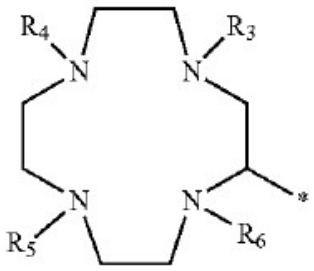


which is



8. The compound or pharmacologically acceptable salt thereof according to claim 1, wherein L is formula (L1):

formula (L1)



wherein R_3, R_4, R_5, and R_6 each independently is a $-CH_2COOH$ group, or an isobutyl group, and the symbol * represents

a binding site, provided that three of R_3, R_4, R_5, and R_6 each is a $-CH_2COOH$ group, and one of R_3, R_4, R_5, and R_6 is an isobutyl group.

9. A compound having a target molecule recognition element bound to the compound or pharmacologically acceptable salt thereof according to claim 1, or a pharmacologically acceptable salt thereof.

10. A metal complex compound comprising a metal selected from the group consisting of a radioactive metal and a radioactive atom-labeled metal; and the compound or pharmacologically acceptable salt thereof according to claim 9 coordinated to the metal, or a pharmacologically acceptable salt thereof.

11. The metal complex compound or pharmacologically acceptable salt thereof according to claim 10, wherein the metal is ^{111}In, ^{223}Ra, ^{67}Ga, ^{68}Ga, ^{44}Sc, ^{90}Y, ^{177}Lu, ^{225}Ac, ^{212}Bi, ^{213}Bi, ^{212}Pb, ^{227}Th, ^{64}Cu, or ^{67}Cu.

12. A drug for preparing a radioactive drug, comprising the compound or pharmacologically acceptable salt thereof according to claim 9 and one or two or more pharmaceutically acceptable carriers.

13. A radioactive drug, comprising the metal complex compound or pharmacologically acceptable salt thereof according to claim 10 and one or two or more pharmaceutically acceptable carriers.

14. A method of radiation therapy wherein an effective amount of a radiotherapeutic agent is to be administered to a mammal, and wherein the radiotherapeutic agent

comprises the metal complex compound or pharmacologically acceptable salt thereof according to claim 10.

15. A method of radiological imaging wherein a radioactive diagnostic imaging agent is to be administered to a mammal, and wherein the radioactive diagnostic imaging agent comprises the metal complex compound or pharmacologically acceptable salt thereof according to claim 10.

16. A method of producing a metal complex compound or pharmacologically acceptable salt thereof comprising coordinating the compound or pharmacologically acceptable salt thereof according to claim 9 to a metal selected from the group consisting of a radioactive metal and a radioactive atom-labeled metal.