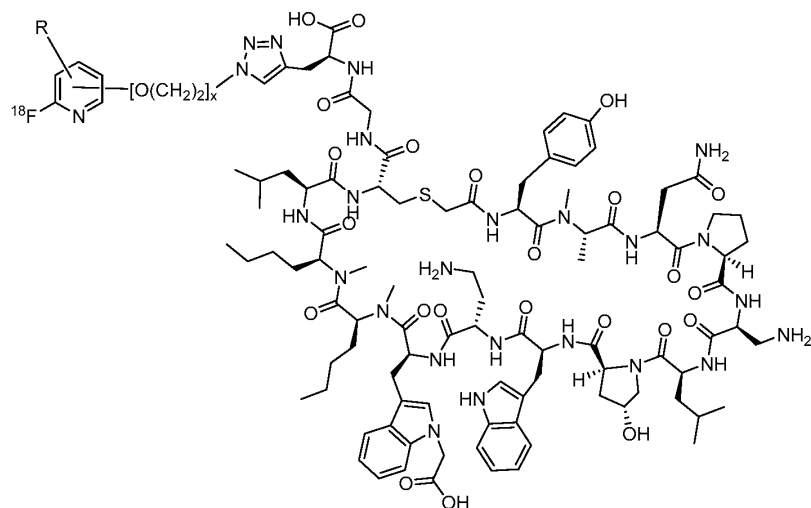


CLAIMS

WHAT IS CLAIMED IS:

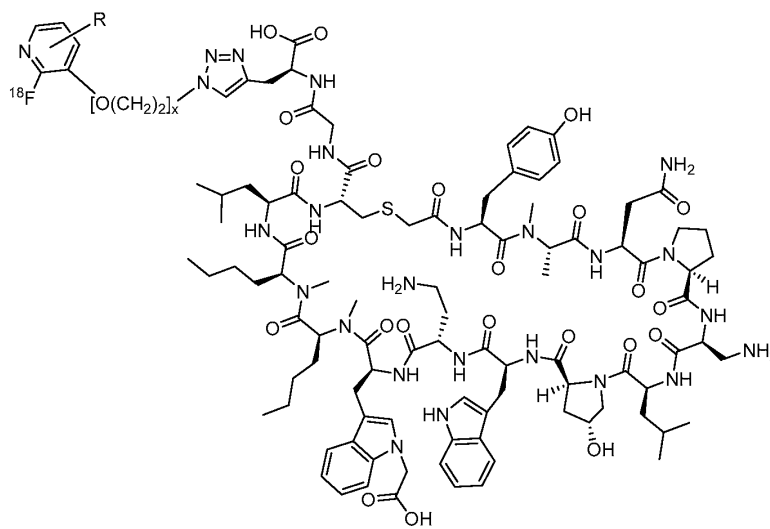
1. A compound of formula (I)



(I),

or a pharmaceutically acceptable salt thereof, wherein x is an integer from 1 to 8 and R is a C₁-C₆alkyl group.

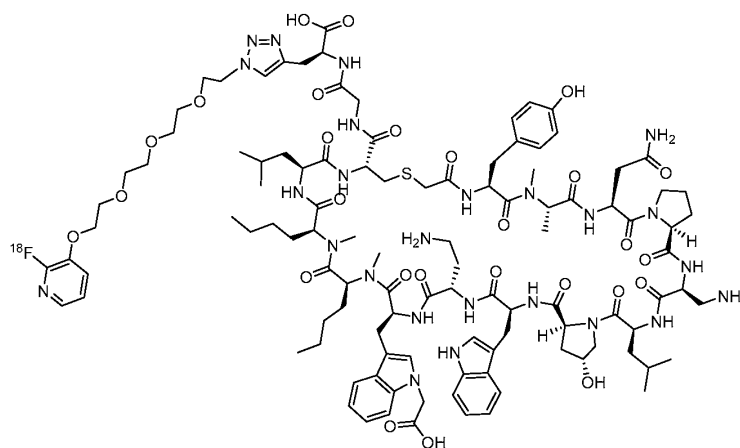
2. A compound of claim 1 of formula (II)



(II),

or a pharmaceutically acceptable salt thereof, wherein x is an integer from 1 to 8 and R is C_1 - C_6 alkyl group.

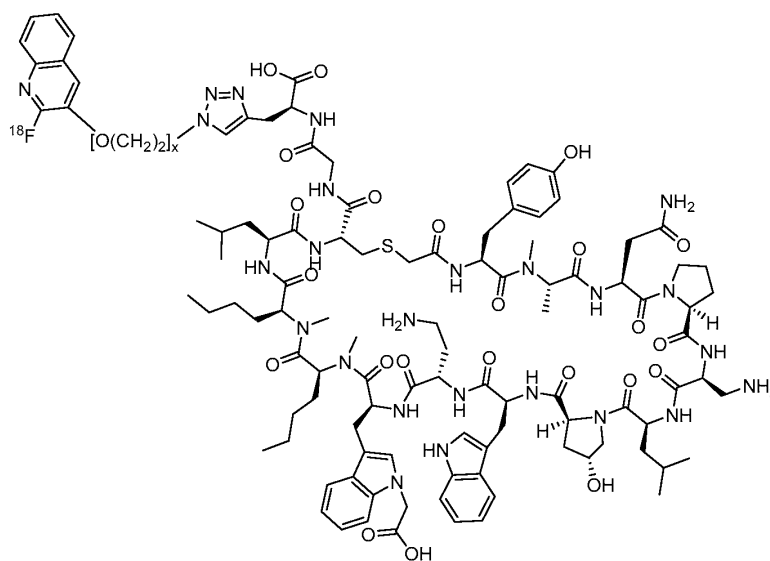
3. A compound of claim 1 of formula (III)



(III),

or a pharmaceutically acceptable salt thereof.

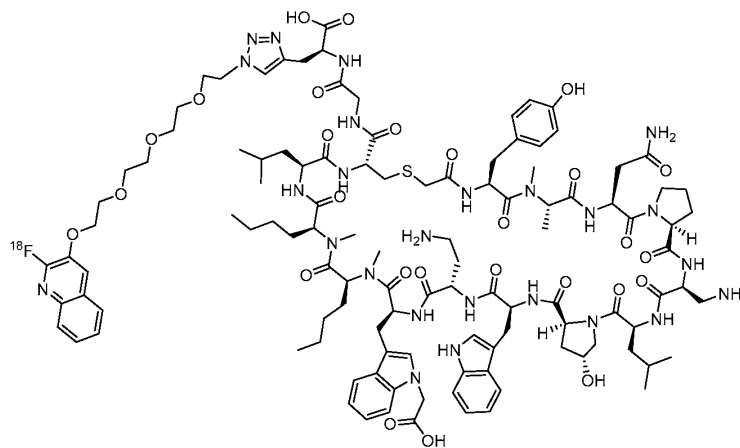
4. A compound of formula (IV)



(IV),

or a pharmaceutically acceptable salt thereof, wherein x is an integer from 1 to 8 and R is C_1 - C_6 alkyl group.

5. A compound of claim 4 of formula (V)



(V),

or a pharmaceutically acceptable salt thereof.

6. A method of obtaining an image of a compound of claim 1, the method comprising,

- a) administering the compound to a subject; and
- b) imaging *in vivo* the distribution of the compound positron emission tomography (PET) scanning.

7. The method of claim 6, wherein the imaged distribution of the compound of claim 1 is indicative of the presence or absence of a disease.

8. A method of monitoring the progress of a disease in a subject, the method comprising

(a) administering to a subject in need thereof a compound of claim 1 which binds to a target molecule associated with the presence of the disease at a first time point and obtaining an image of at least a portion of the subject to determine the amount of the diseased cells or tissue; and

(b) administering to the subject compound of claim 1 at one or more subsequent time points and obtaining an image of at least a portion of the subject at each time point; wherein the dimension and location of the diseased cells or tissue at each time point is indicative of the progress of the disease.

9. A method of quantifying diseased cells or tissues in a subject, the method comprising

(a) administering to a subject having diseased cells or tissues a compound of claim 1 which binds to a target molecule located with the diseased cells or tissues; and

(b) detecting radioactive emissions of the ^{18}F in the diseased cells or tissue, wherein the level and distribution of the radioactive emissions in the diseased cells or tissues is a quantitative measure of the diseased cells or tissues.

10. The method of claim 9 wherein the disease is selected from the group consisting of solid cancers, hematopoietic cancers, hematological cancers, autoimmune disease, neurodegenerative disease cardiovascular disease, and pathogenic infection.

11. A method of obtaining a quantitative image of tissues or cells expressing PD-L1, the method comprising contacting the cells or tissue with a compound of claim 1 which

binds to PD-L1, and detecting or quantifying the tissue expressing PD-L1 using positron emission tomography (PET).

12. A method of screening for an agent for treating a disease comprising the steps of
- (a) contacting cells expressing PD-L1 with a compound of claim 1 which binds to PD-L1 in the presence and absence of a candidate agent; and
 - (b) imaging the cells in the presence and absence of the candidate agent using positron emission tomography (PET),
- wherein a decrease in the amount of radioactive emissions in the presence of the candidate agent is indicative of that the agent binds to PD-L1.

13. A pharmaceutical composition comprising a compound of claim 1.

14. A kit comprising the reaction precursors for use in producing the compound of claim 1, and instructions for producing the compound of claim 1.