CLAIMS

1) A **method** of radiolabelling a biological entity comprising the step of contacting a suspension of the biological entity with an iodinated (^{125}I) construct of the structure F-S-L for a time and at a temperature sufficient to allow localisation of the ^{125}I to the surface of the biological entity where F comprises an iodinated histidine (His) residue or an iodinated tyrosine (Tyr) residue, S is a spacer covalently linking F to L, and L is a lipid.

2) A non-invasive **method** of monitoring the distribution of a biological entity in a subject *in vivo* comprising the steps of:

- contacting a suspension of the biological entity with a an iodinated (^{125}I) construct of the structure F-S-L for a time and at a temperature sufficient to provide a ^{125}I-labelled biological entity;
- administering to the subject the ^{125}I-labelled biological entity to a subject; and
- monitoring the distribution of the biological entity by radioactivity bioscanning,

where F comprises an iodinated histidine (His) residue or an iodinated tyrosine (Tyr) residue, S is a spacer covalently linking F to L, and L is a lipid.

3) The method of claim 1 or 2 where the suspension is an aqueous suspension.

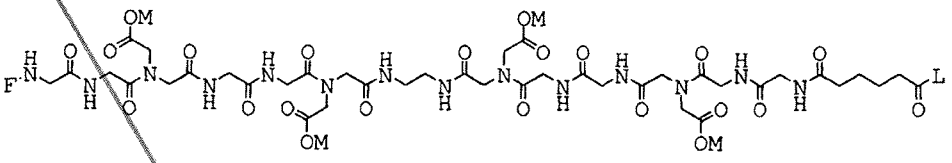
4) The method of any one of claims 1 to 3 where the biological entity is a cell or an enveloped virus.

5) The method of 2 where the biological entity is administered to the subject by injection.

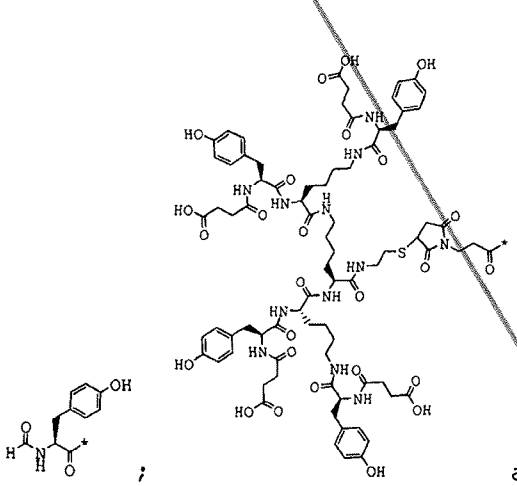
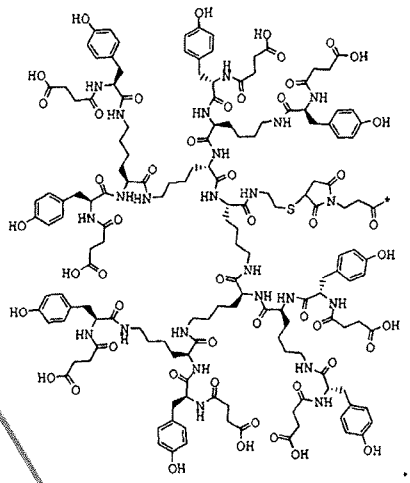
6) The method of any one of claims 1 to 5 where F comprises an iodinated tyrosine (Tyr) residue.

7) The method of claim 6 where the tyrosine (Tyr) residue is an N-carbonyl-Tyr residue.

8) A **construct** of the structure:



where F is a tyrosine residue selected from the group consisting of:


; and

.

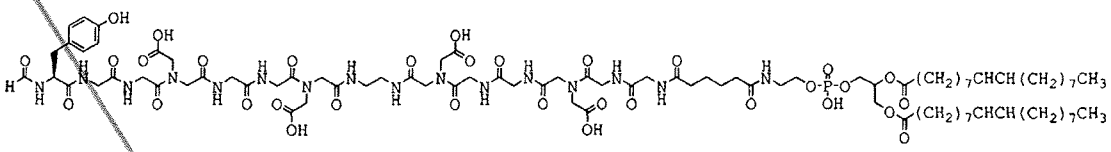
L is phosphatidylethanolamine and M is H or CH_3.

9) The construct of claim 8 where L is selected from the group consisting of: 1,2-O-dioleoyl-*sn*-glycero-3-phosphatidylethanolamine (DOPE) and 1,2-O-distearyl-*sn*-glycero-3-phosphatidylethanolamine (DSPE).

10) The construct of claim 9 where L is 1,2-O-dioleoyl-*sn*-glycero-3-phosphatidylethanolamine (DOPE).

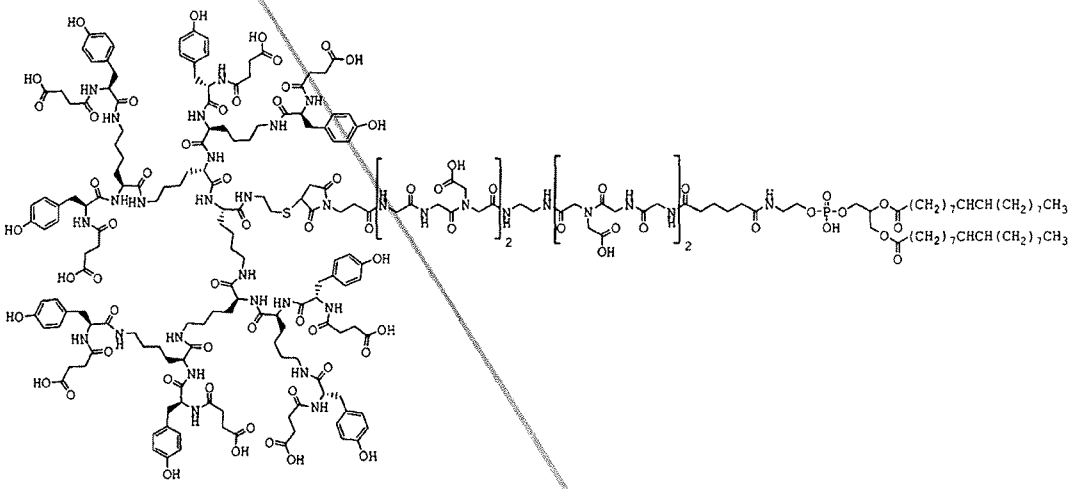
11) A **construct** of the structure *N*-formyl-$(Tyr)_n$-S-L where n is an integer from 1 to 6 inclusive.

12) The construct of claim 11 where n is 1 and the construct is of the structure:



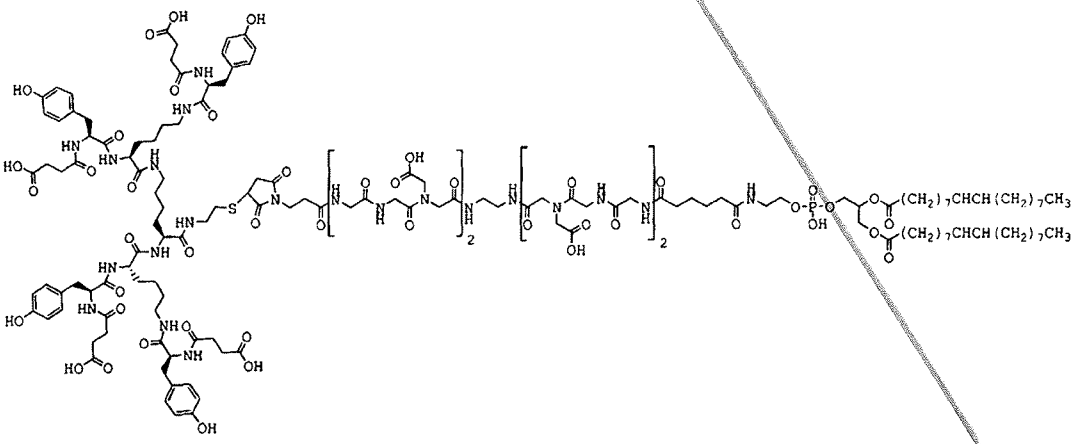
designated FSL-tyrosine.

13) A **constructs** of the structure:



designated FSL-Tyr8.

14) A **constructs** are of the structure:



designated FSL-Tyr4.

CLAIMS

1) A **method** of radiolabelling a biological entity comprising the step of contacting a suspension of the biological entity with an iodinated (^{125}I or ^{131}I) construct of the structure F-S-L for a time and at a temperature sufficient to allow localisation of the ^{125}I or ^{131}I to the surface of the biological entity where F comprises an iodinated histidine (His) residue or an iodinated tyrosine (Tyr) residue, S is a spacer covalently linking F to L, and L is a lipid.

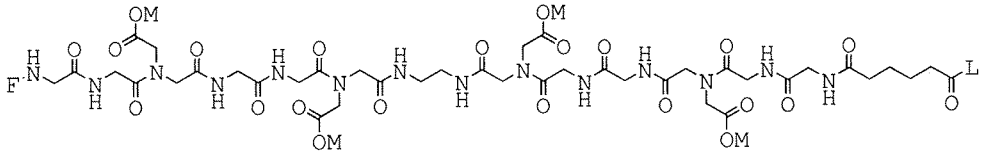
2) The method of claim 1 where the suspension is an aqueous suspension.

3) The method of claim 1 or 2 where the biological entity is a cell or an enveloped virus.

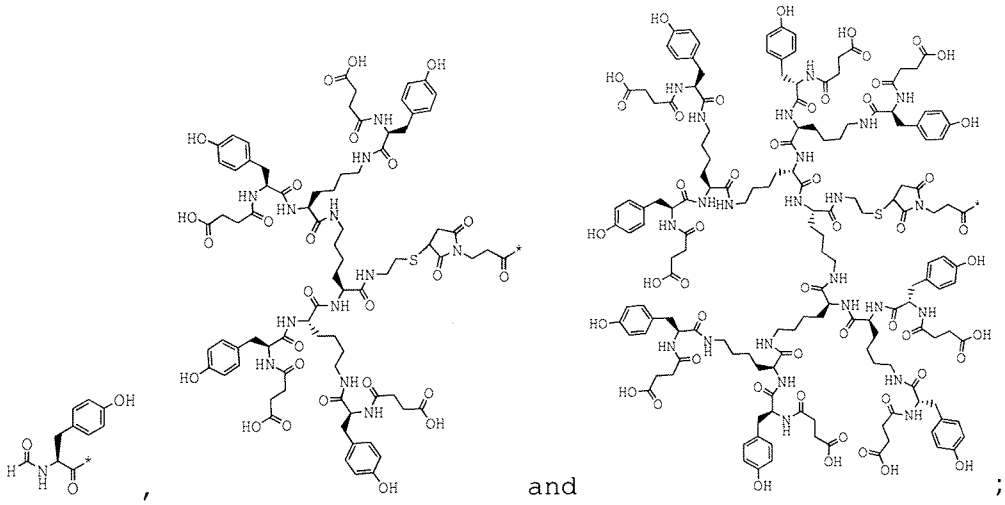
4) The method of any one of claims 1 to 3 where F comprises an iodinated tyrosine (Tyr) residue.

5) The method of claim 4 where the tyrosine (Tyr) residue is an N-carbonyl-Tyr residue.

6) A **construct** of the structure:



where F is a tyrosine residue selected from the group consisting of:



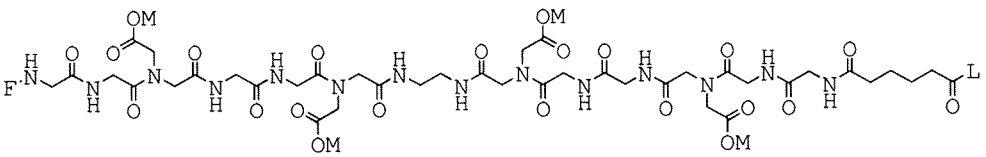
, and ;

L is phosphatidylethanolamide and M is H or CH_3.

7) The construct of claim 6 where L is 1,2-O-dioleoyl-*sn*-glycero-3-phosphatidylethanolamide or 1,2-O-distearyl-*sn*-glycero-3-phosphatidylethanolamide.

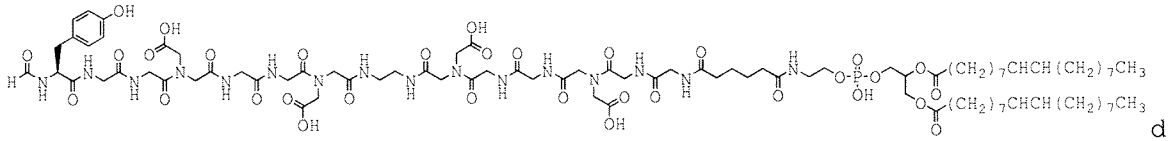
8) The construct of claim 7 where L is 1,2-O-dioleoyl-*sn*-glycero-3-phosphatidylethanolamide (DOPE).

9) A **construct** of the structure:



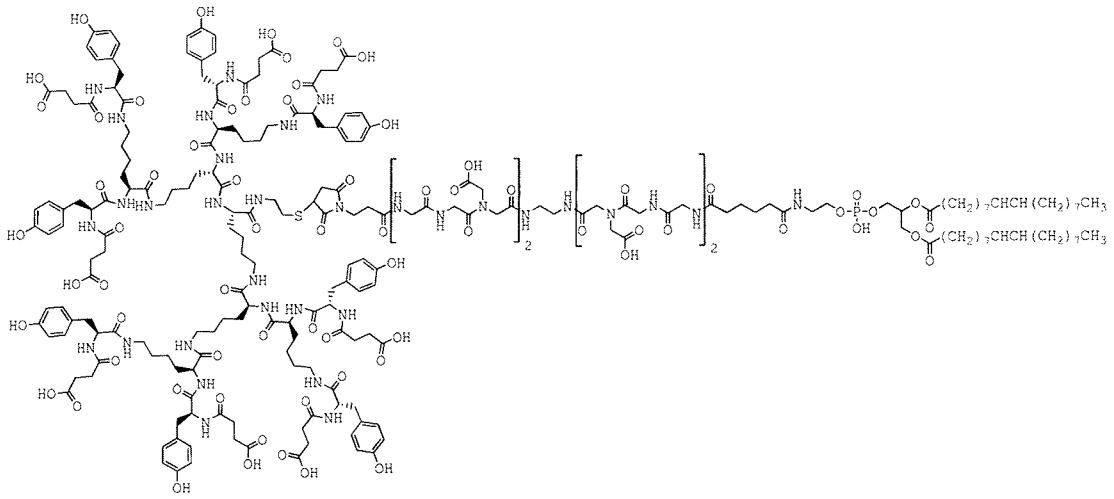
where F is *N*-formyl-$(Tyr)_n$-, L is phosphatidylethanolamide, M is H or CH_3, and n is an integer from 1 to 6 inclusive.

10) The construct of claim 9 where n is 1 and the construct is of the structure:



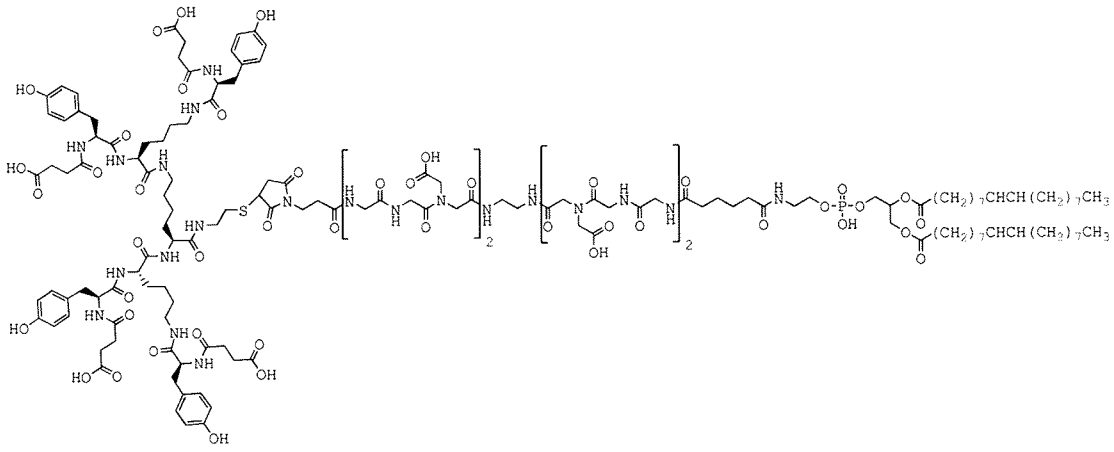
designated FSL-tyrosine.

11) A **construct** of the structure:



designated FSL-Tyr8.

12) A **construct** of the structure:



designated FSL-Tyr4.

13) The method of any one of claims 1 to 5 where the construct is any one of claims 6 to 12.