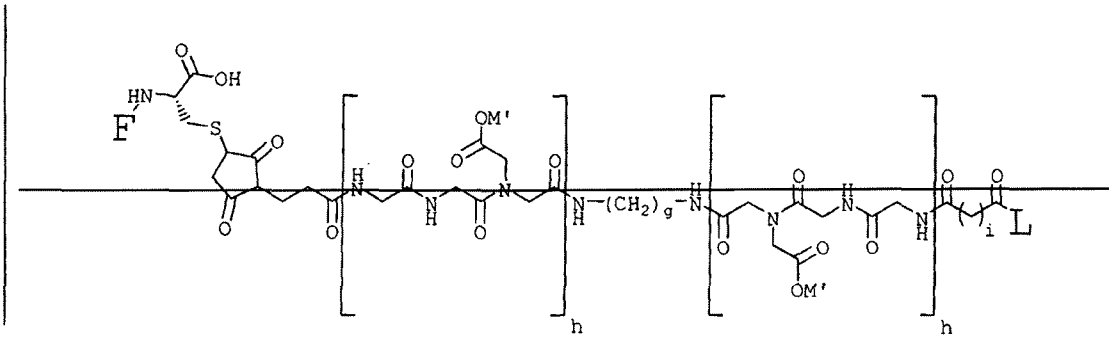
Preferably, the immunoglobulin containing preparation is serum. More preferably, the immunoglobulin containing preparation is an intravenous immunoglobulin (IVIG) product.

Preferably, the target antigen is an antigen of cytomegalovirus (CMV). More preferably, the target antigen is:

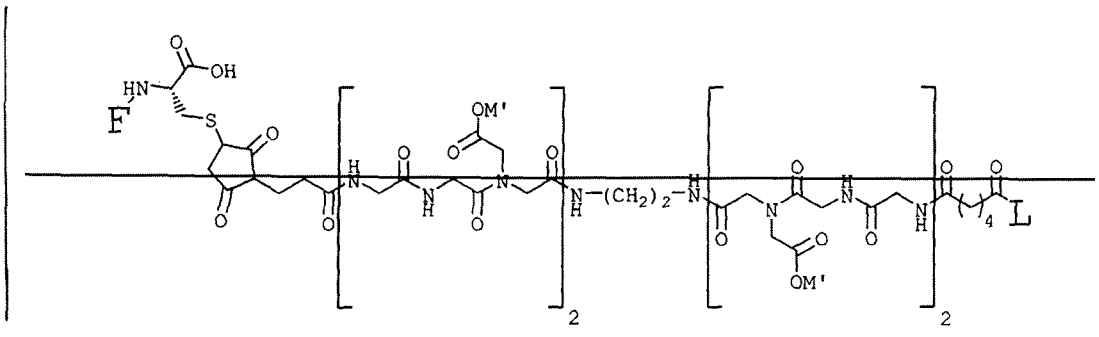
ThrProThrProValAsnProSerThrAlaProAlaProAlaProThrProThrPheAla

of the biosequence designated SEQ ID NO:1.

Preferably, the construct is of the structure:



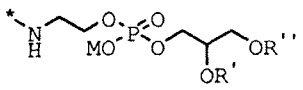
where g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M' is a monovalent cation or substituent. An example of a monovalent cation is H^+. An example of a monovalent substituent is methyl (CH_3). More preferably, the construct is of the structure:



Preferably, the spacer (S) is covalently linked to the target antigen (F) via a cysteine residue at the carboxy (C) terminus of the target antigen.

Preferably, L is a diacyl- or dialkyl- glycerophospholipid. More preferably, L is a diacylglycerophospholipid. Preferably, the spacer (S) is covalently linked to the lipid (L) via an amide bond

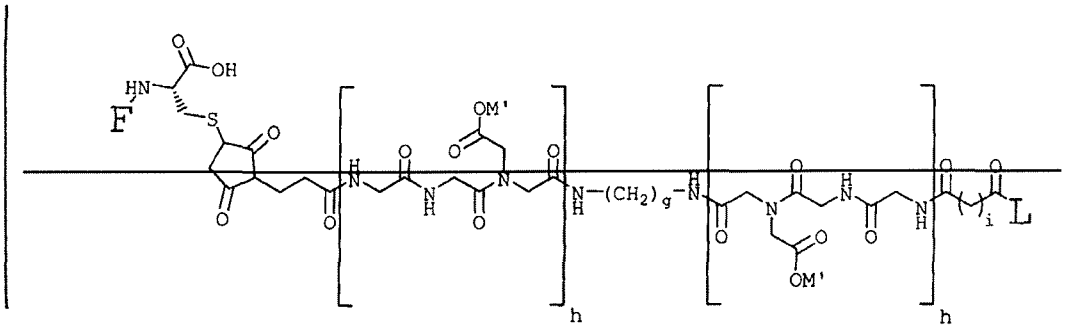
formed between the terminal carboxyl group and a primary amine. Preferably, L is a phosphatidylethanolamine. More preferably, L is a phosphatidylethanolamine of the structure:



where M is a monovalent cation and R′ and R′′ are independently selected from the group consisting of: oleoyl and stearyl. Typically, M is H. Most preferably, L is dioleoyl-phosphatidylethanolamine (DOPE).

In an embodiment of the first aspect of the invention the construct (F-S-L) is of the structure designated DOPE-Ad-CMG(2)-hCMV2

In a **second** aspect the invention provides constructs of the structure:



for use in a method of assaying the Fc-function of a sample of an immunoglobulin containing preparation where F is a peptide of the biosequence designated SEQ ID NO:1, L is phosphatidylethanolamine, g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M′ is a monovalent cation or substituent.

Preferably, g is 2, h is 2, i is 4, and M′ is H.

CLAIMS

1) A **method** of assaying Fc-function of a sample of an immunoglobulin containing preparation comprising the steps of:

- contacting the sample, in the presence of complement, with red blood cells modified to incorporate a construct of the structure F-S-L; and then
- monitoring the rate of haemolysis,

where F is a target antigen for a complement activating immunoglobulin, S is a spacer covalently linking F to L and selected to provide a construct dispersible in water, and L is a lipid.

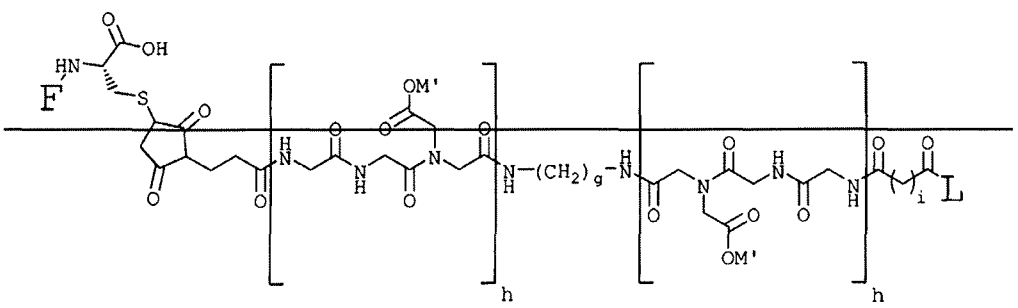
2) The method of claim 1 where the immunoglobulin containing preparation is serum.

3) The method of claim 2 where the immunoglobulin containing preparation is an intravenous immunoglobulin product.

4) The method of claim 3 where the target antigen is an antigen of cytomegalovirus.

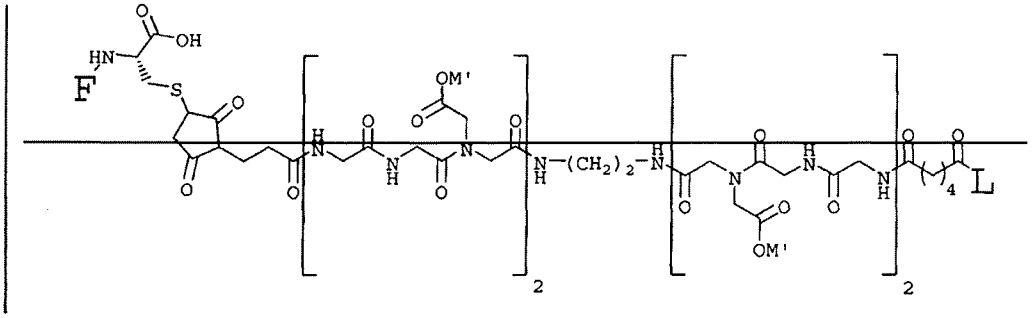
5) The method of claim 4 where the target antigen is the peptide of the biosequence designated SEQ ID NO:1.

6) The method of claim 1 where the construct is of the structure:



where g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M' is a monovalent cation or substituent.

7) The method of claim 6 where the construct is of the structure:

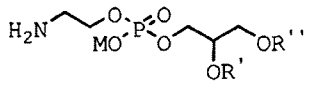


8) The method of claim 1 where L is a diacyl- or dialkyl-glycerophospholipid.

9) The method of claim 8 where L is a diacylglycerophospholipid.

10) The method of claim 9 where L is a phosphatidylethanolamine.

11) The method of claim 10 where L is a phosphatidylethanolamine of the structure:



where M is a monovalent cation and R′ and R′′ are independently selected from the group consisting of oleoyl and stearyl.

12) The method of claim 11 where L is dioleoylphosphatidyl-ethanolamine (DOPE).

13) The method of claim 1 where the construct is the construct designated DOPE-Ad-CMG(2)-hCMV2.

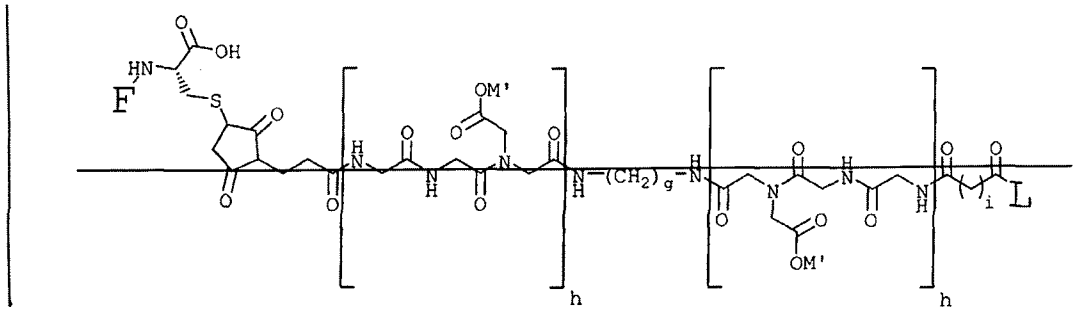
14) The method of any one of claims 1 to 13 where the complement is present at a concentration in the range 18 to 28 CH_{50}/ml.

15) The method of claim 14 where the complement is present at a concentration of 23(±5%) CH_{50}/ml.

16) The method of any one of claims 1 to 15 where the concentration of immunoglobulins in the sample is in the range 40 to 60 mg/ml.

17) The method of claim 16 where the concentration of immunoglobulins in the sample is 50(±5%) mg/ml.

18) A construct of the structure:



for use in a method of assaying the Fc-function of a sample of an immunoglobulin containing preparation where F is the peptide of sequence SEQ ID NO:1, L is phosphatidylethanolamine, g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M' is a monovalent cation or substituent.

19) A construct of claim 18 where g is 2, h is 2, i is 4, and M' is H.

20) The **construct** designated DOPE-Ad-CMG(2)-hCMV2.

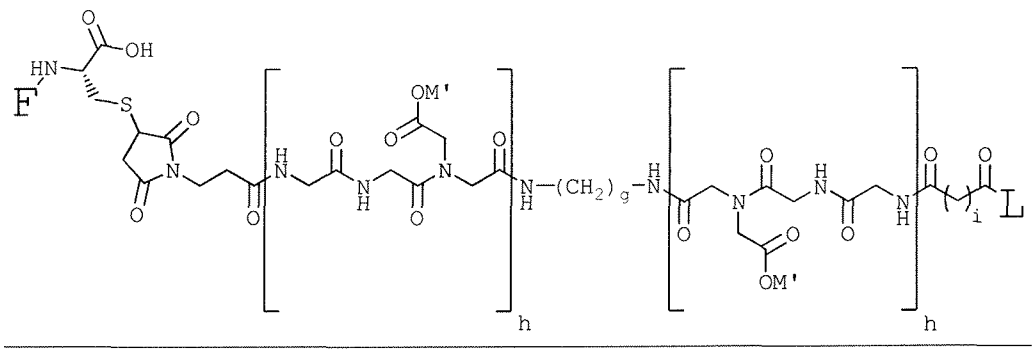
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Preferably, the target antigen is an antigen of cytomegalovirus (CMV). More preferably, the target antigen is:

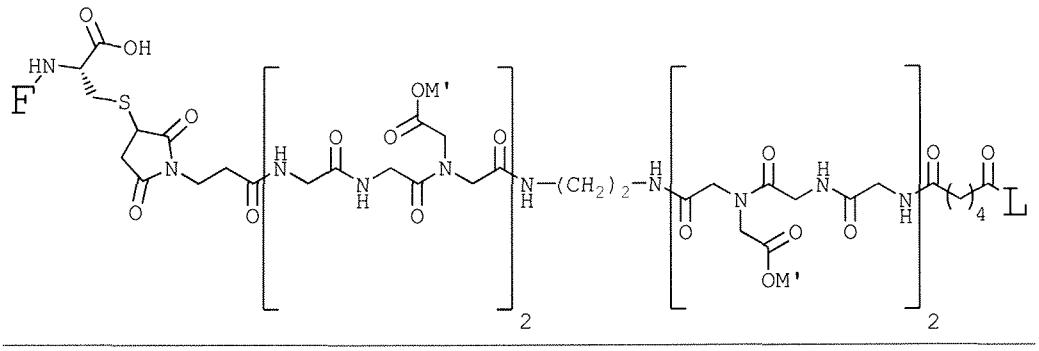
ThrProThrProValAsnProSerThrAlaProAlaProAlaProThrProThrPheAla

of the biosequence designated SEQ ID NO:1.

Preferably, the construct is of the structure:



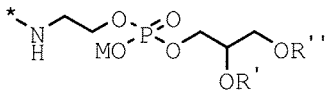
where g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M' is a monovalent cation or substituent. An example of a monovalent cation is H^+. An example of a monovalent substituent is methyl (CH_3). More preferably, the construct is of the structure:



Preferably, the spacer (S) is covalently linked to the target antigen (F) via a cysteine residue at the carboxy (C) terminus of the target antigen.

Preferably, L is a diacyl- or dialkyl- glycerophospholipid. More preferably, L is a diacylglycerophospholipid. Preferably, the

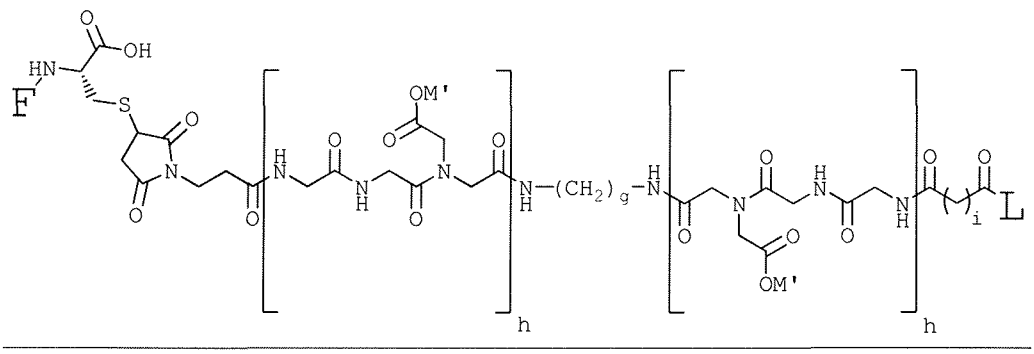
spacer (S) is covalently linked to the lipid (L) via an amide bond formed between the terminal carboxyl group and a primary amine. Preferably, L is a phosphatidylethanolamine. More preferably, L is a phosphatidylethanolamine of the structure:



where M is a monovalent cation and R′ and R′′ are independently selected from the group consisting of: oleoyl and stearyl. Typically, M is H. Most preferably, L is dioleoyl-phosphatidylethanolamine (DOPE).

In an embodiment of the first aspect of the invention the construct (F-S-L) is of the structure designated DOPE-Ad-CMG(2)-hCMV2

In a **second** aspect the invention provides constructs of the structure:



for use in a method of assaying the Fc-function of a sample of an immunoglobulin containing preparation where F is a peptide of the biosequence designated SEQ ID NO:1, L is phosphatidylethanolamine, g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M′ is a monovalent cation or substituent.

Preferably, g is 2, h is 2, i is 4, and M′ is H.

CLAIMS

1) A **method** of assaying Fc-function of a sample of an immunoglobulin containing preparation comprising the steps of:

- contacting the sample, in the presence of complement, with red blood cells modified to incorporate a construct of the structure F-S-L; and then
- monitoring the rate of haemolysis,

where F is a target antigen for a complement activating immunoglobulin, S is a spacer covalently linking F to L and selected to provide a construct dispersible in water, and L is a lipid.

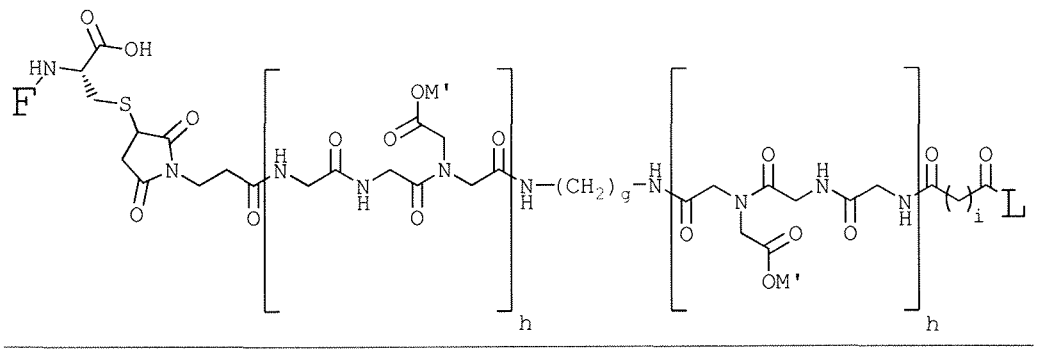
2) The method of claim 1 where the immunoglobulin containing preparation is serum.

3) The method of claim 2 where the immunoglobulin containing preparation is an intravenous immunoglobulin product.

4) The method of claim 3 where the target antigen is an antigen of cytomegalovirus.

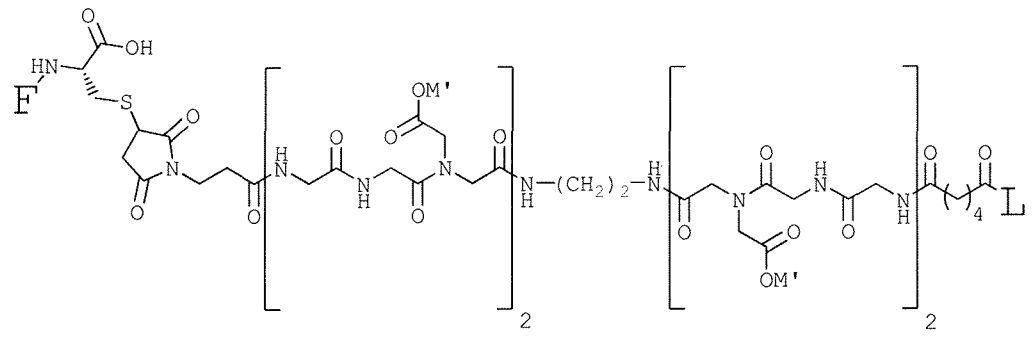
5) The method of claim 4 where the target antigen is the peptide of the biosequence designated SEQ ID NO:1.

6) The method of claim 1 where the construct is of the structure:



where g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M' is a monovalent cation or substituent.

7) The method of claim 6 where the construct is of the structure:

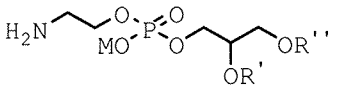


8) The method of claim 1 where L is a diacyl- or dialkyl-glycerophospholipid.

9) The method of claim 8 where L is a diacylglycerophospholipid.

10) The method of claim 9 where L is a phosphatidylethanolamine.

11) The method of claim 10 where L is a phosphatidylethanolamine of the structure:



where M is a monovalent cation and R′ and R′′ are independently selected from the group consisting of oleoyl and stearyl.

12) The method of claim 11 where L is dioleoylphosphatidyl-ethanolamine (DOPE).

13) The method of claim 1 where the construct is the construct designated DOPE-Ad-CMG(2)-hCMV2.

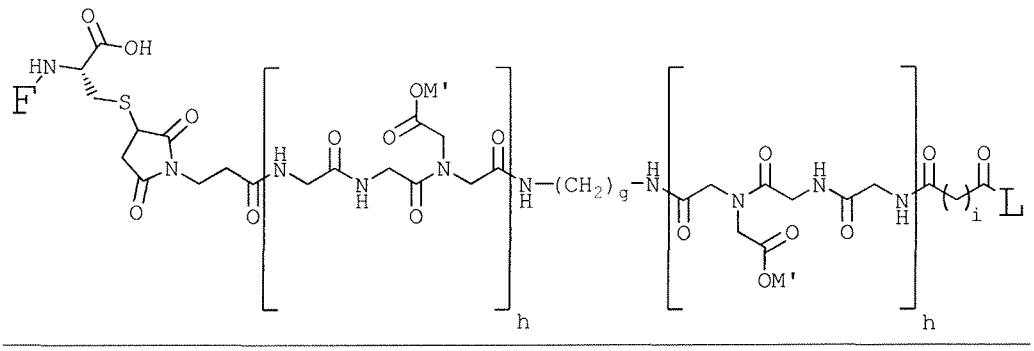
14) The method of any one of claims 1 to 13 where the complement is present at a concentration in the range 18 to 28 CH_{50}/ml.

15) The method of claim 14 where the complement is present at a concentration of 23(±5%) CH_{50}/ml.

16) The method of any one of claims 1 to 15 where the concentration of immunoglobulins in the sample is in the range 40 to 60 mg/ml.

17) The method of claim 16 where the concentration of immunoglobulins in the sample is 50(±5%) mg/ml.

18) A construct of the structure:



for use in a method of assaying the Fc-function of a sample of an immunoglobulin containing preparation where F is the peptide of sequence SEQ ID NO:1, L is phosphatidylethanolamine, g is the integer 1, 2 or 3, h is the integer 1, 2, 3 or 4, i is the integer 3, 4 or 5, and M′ is a monovalent cation or substituent.

19) A construct of claim 18 where g is 2, h is 2, i is 4, and M′ is H.

20) The **construct** designated DOPE-Ad-CMG(2)-hCMV2.