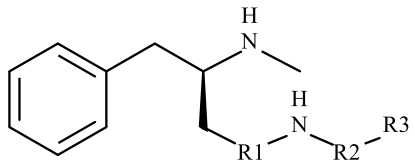
We claim:

1. A compound or salt thereof, said compound having a general formula:



wherein

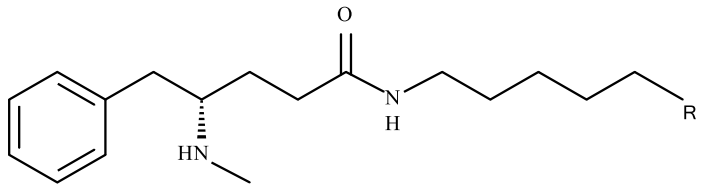
R1 is $–(O–CH_2–CH_2)_p–$, wherein p is 1 to 6, or an optionally substituted C_{1-6} alkyl, wherein substitution(s), when present, are independently selected from the group consisting of $–NO_2$, $–NH_2$, –OH, =O, –COOR' where R' is H or lower alkyl, $–CH_2OH$, and $–CONH_2$,

R2 is peptide of m amino acid residues, an alkylene oxide of m alkylene oxide monomers, or $(CH_2)_m$, where m = 2 to 6; and

R3 is selected from the group consisting of a protected or unprotected maleimide, alkyl halide, aryl halide, alpha-haloacyl, pyridyl disulfide, aldehyde, ketone, carboxyl, thiol, thioester, disulfide, N-hydroxy-succinimide, or cyclic thiolactone.

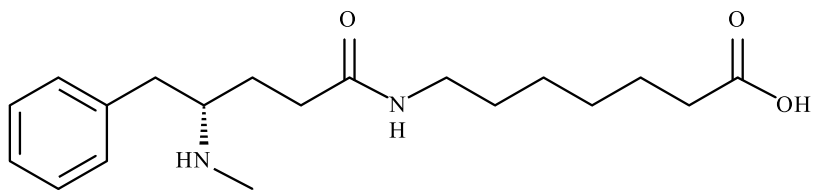
2. A compound or salt thereof according to claim 1, wherein R1 is –Gly-Gly–, –Gly-Ala–, –Ala-Gly–, –Pro-Gly–, –Gly-Pro–, –Ala-Ala–, –Ala-Pro–, or –Pro-Ala–.

3. A compound or salt thereof according to claim 1, wherein the compound has the structure



where R is a protected or unprotected maleimide, alkyl halide, aryl halide, alpha-haloacyl, pyridyl disulfide, aldehyde, ketone, carboxyl, thiol, thioester, disulfide, N-hydroxy-succinimide, or cyclic thiolactone.

4. A compound according to claim 3, wherein the compound is



.

5. A conjugate comprising one or more compounds according to claim 1 covalently bound through R3 on the compound(s) to a corresponding coupling site on a protein, polypeptide, detectable label, nucleic acid, or solid phase.

6. A conjugate according to claim 5, wherein said coupling site is on a detectable label selected from the group consisting of a hapten carrier protein comprising a T-helper epitope, an enzyme, a fluorophore, biotin, avidin, streptavidin, digoxigenin, maltose, oligohistidine, 2,4-dintrobenzene, phenylarsenate, a metal, a fluorescent or colored microsphere, a fluorescent particle, and a colored latex particle.

7. A conjugate according to according to claim 6, wherein said hapten carrier protein comprising a T-helper epitope is selected from the group consisting of keyhole limpet hemocyanin, bovine serum albumin, thyroglobulin, thioredoxin, ovalbumin, lysozyme, diphtheria antigen DT, diphtheria antigen CRM197 and tetanus toxoid.

8. A method of preparing a conjugate, comprising:

contacting one or more compounds of one of claims 1-7 with a protein, polypeptide, detectable label, nucleic acid, or solid phase under conditions to provide covalent coupling of said compound(s) to said protein, polypeptide, detectable label, nucleic acid, or solid phase through R3 on the compound(s).

9. A method according to claim 8, wherein said method further comprises introducing said one or more coupling sites corresponding to the reactive moiety into said protein, polypeptide, detectable label, nucleic acid, or solid phase prior to said contacting step.

10. A method according to claim 8, wherein said introducing step comprises coupling of said protein, polypeptide, detectable label, nucleic acid, or solid phase to one or more bivalent crosslinkers comprising said one or more sulfhydryl-reactive moieties.

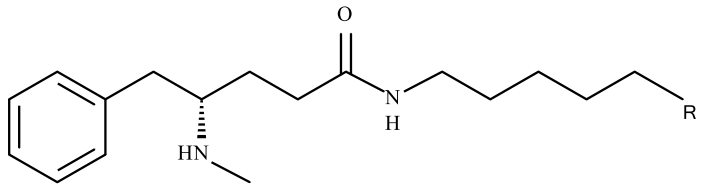
11. Use of a conjugate of claim 5 in the preparation of a medicament for stimulating an immune response to methamphetamine in an animal.

12. The use according to claim 11, wherein the animal is a human.

13. The use according to claim 11, further comprising co-administering one or more immunostimulatory adjuvant molecules with the conjugate.

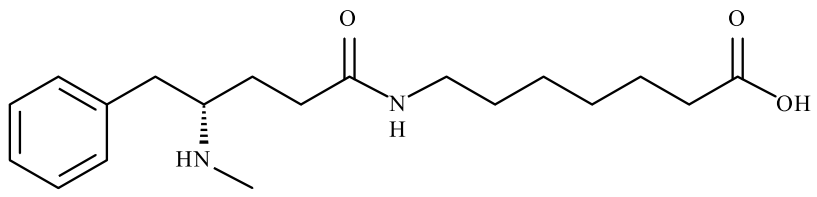
14. The use according to one of claims 11-13, wherein R1 is –Gly-Gly–, –Gly-Ala–, –Ala-Gly–, –Pro-Gly–, –Gly-Pro–, –Ala-Ala–, –Ala-Pro–, or –Pro-Ala–.

15. The use according to claim 11, wherein the compound has the structure



where R is a protected or unprotected maleimide, alkyl halide, aryl halide, alpha-haloacyl, pyridyl disulfide, aldehyde, ketone, carboxyl, thiol, thioester, disulfide, N-hydroxy-succinimide, or cyclic thiolactone.

16. The use according to claim 11, wherein the compound has the structure



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17. The use according to claim 11, wherein the protein, polypeptide, detectable label, nucleic acid, or solid phase is selected from the group consisting of a hapten carrier protein comprising a T-helper epitope, an enzyme, a fluorophore, biotin, avidin, streptavidin, digoxigenin, maltose, oligohistidine, 2,4-dintrobenzene, phenylarsenate, a metal, a fluorescent or colored microsphere.

18. The use according to according to claim 17, wherein said hapten carrier protein comprising a T-helper epitope is selected from the group consisting of keyhole limpet hemocyanin, bovine serum albumin, thyroglobulin, thioredoxin, ovalbumin, lysozyme, diphtheria antigen DT, diphtheria antigen CRM197 and tetanus toxoid.

19. A vaccine composition comprising:

a conjugate of one of claims 5-7; and

one or more immunostimulatory adjuvant molecules.