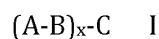
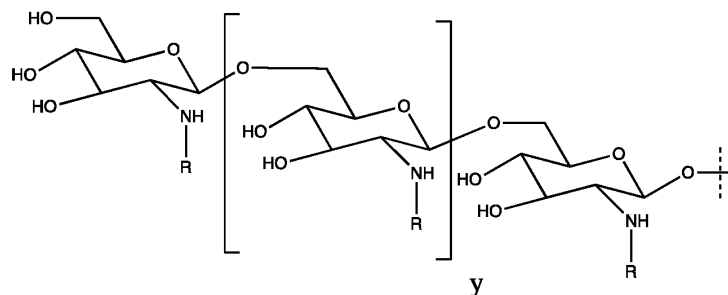


WHAT IS CLAIMED IS:

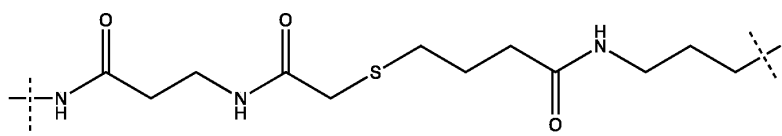
1. A compound represented by formula I:



where A comprises from 3 to 12 repeating β -(1 $\rightarrow$ 6)-glucosamine units or mixtures thereof having the formula:



B is of the formula:



where the left side of the formula is attached to C and the right side is attached to A;

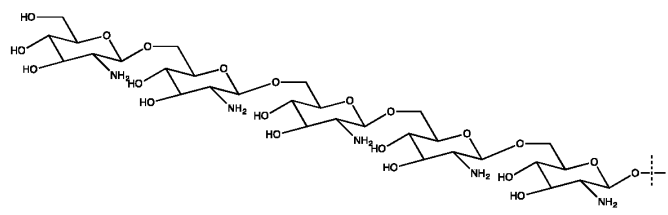
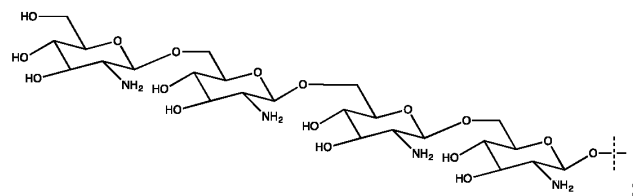
and C is tetanus toxoid having at least 31 reactive amino functionalities;

x is an integer from about 31 to about 39;

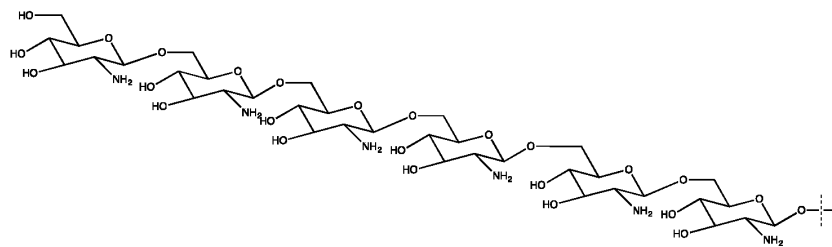
y is an integer from 1 to 10; and

R is hydrogen or acetyl provided that no more than 40% of the R groups are acetyl wherein said tetanus toxoid comprises at least 31 reactive amino groups and at least 90 percent by number of the toxoid is in monomeric form.

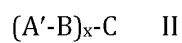
2. A compound according to claim 1, wherein A is:



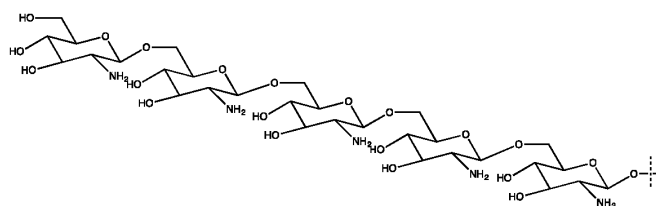
OR



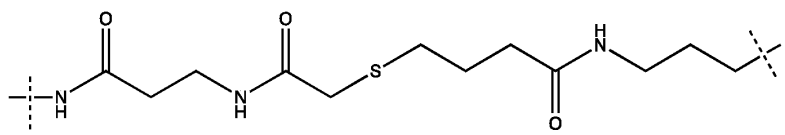
3. A compound represented by formula II:



wherein A' is



B is of the formula:



where the left side of the formula is attached to C and the right side is attached to A;
and C is tetanus toxoid having at least 31 reactive amino functionalities;

x is an integer from about 31 to about 39;

y is an integer from 1 to 10; and

R is hydrogen or acetyl provided that no more than 40% of the R groups are acetyl
wherein said tetanus toxoid comprises at least 31 reactive amino groups and at least 85
percent by number of the toxoid is in monomeric form.

4. The compound of any one of claims 1 to 3, wherein the amount of non-monomeric toxoid is less than about 5 weight percent.

5. The compound of any one of claims 1 to 3, wherein the amount of non-monomeric toxoid is less than about 0.5 weight percent.

6. A pharmaceutical composition comprising a pharmaceutically acceptable diluent and an effective amount of the compound of claim 1.

7. A pharmaceutical composition comprising a pharmaceutically acceptable diluent and an effective amount of the compound of claim 2 wherein said composition comprises no more than 3 weight percent of low molecular weight amino compounds.

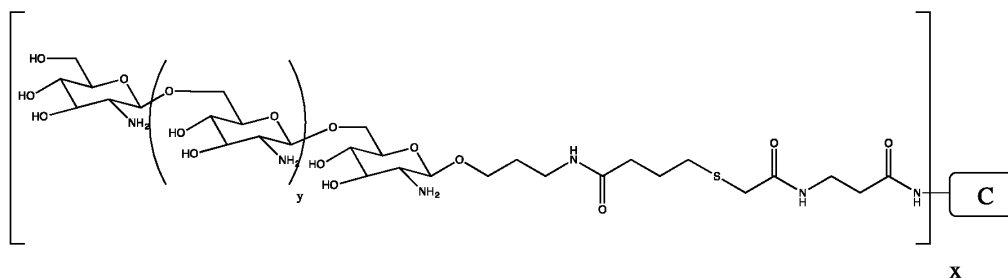
8. A pharmaceutical composition comprising a pharmaceutically acceptable diluent and an effective amount of the compound of claim 3 wherein said composition comprises no more than 3 weight percent of low molecular weight amino compounds.

9. The pharmaceutical composition according to any one of claims 6-8, wherein said composition comprises less than 2 weight percent of low molecular weight amino compounds.

10. The pharmaceutical composition according to claim 9, wherein said composition comprises less than 1 weight percent of low molecular weight amino compounds.

11. A pharmaceutical composition according to claim 4, wherein the effective amount of the compound of claim 1 is an amount sufficient to kill microbes *in vivo*, when a patient has an effective white blood cell (WBC) count of at least about 2,000.

12. A pharmaceutical composition according to claim 5 wherein said compound is selected from the group consisting of:



Example	Y	C	Percent N-acetylated	x	Percent monomer
A	2	Tetanus toxoid	0%	31	90%
B	3	Tetanus toxoid	0%	36	95%
C	6	Tetanus toxoid	12.5% (1 of 8)	33	95%
D	10	Tetanus toxoid	25% (3 of 12)	30	>95%
E	3	Tetanus toxoid	20% (1 of 5)	34	>95%
F	4	Tetanus toxoid	33% (2 of 6)	33	90%
G	3	Tetanus toxoid	20% (2 of 5)	30	>90%
H	3	Tetanus toxoid	0%	35	>99%