CLAIMS

1. A method of producing a composition comprising a bioconjugate, wherein said bioconjugate comprises a carrier protein linked to O antigen, said method comprising:

(i) expressing in bacteria: modified EPA protein containing at least one consensus sequence, D/E – X – N – Z – S/T, wherein X and Z may be any natural amino acid except proline, or the AcrA protein; an oligosaccharyl transferase; and one or more O antigens;

(ii) growing the bacteria for a period of time to produce an amount of the biconjugate comprising the AcrA protein or the modified EPA protein linked to the one or more O antigens;

(iii) extracting periplasmic proteins from the prokaryotic host cell; and

(iv) separating the bioconjugate from the extracted periplasmic proteins by anionic exchange and size exclusion chromatography.

2. The method of claim 1, wherein said O antigen is from *Shigella*, *E. coli*, or *Pseudomonas*.

3. The method of claim 2, wherein said O antigen is *Shigella dysenteriae* O1, *Pseudomonas aeruginosa* O1, or *E. coli* O1.

4. The method of claim 2, wherein said O antigen is from *Shigella*.

5. The method of claim 4, wherein said O antigen is from *S. flexneri* 2a, *S. flexneri* 3a, *S. flexneri* 3b, *S. flexneri* 6 or *S*. *sonnei*.

6. The method of claim 2, wherein said O antigen is from *E. coli*.

7. The method of claim 6, wherein said O antigen is from extraintestinal pathogenic *E. coli* (ExPEC).

8. The method of claim 6, wherein said O antigen is from *E. coli* O4:K52 (ExPEC), *E. coli* O4:K6 (ExPEC), *E. coli* O6:K2 (ExPEC); *E. coli* O6:K54 (ExPEC), *E. coli* O22 (ExPEC), *E. coli* O75 (ExPEC), *E. coli* O83 (ExPEC), *E. coli* O7, *E. coli* O9, *E. coli* O16, *E. coli* O121 or *E. coli* O157 (EHEC).

9. The method of claim 1, wherein said oligosaccharyl transferase is from *Campylobacter*.

10. The method of claim 9, wherein said oligosaccharyl transferase is from *Campylobacter jejuni*.

11. The method of claim 1, wherein said composition is at least 98% pure with respect to the bioconjugate.

12. The method of claim 3, wherein said composition is at least 98% pure with respect to the bioconjugate.