What is claimed:

1. A method for purifying a protein, from a solution containing at least one contaminant by superantigen chromatography comprising: a) adsorbing the protein to the superantigen immobilized on a solid support; b) removing the at least one contaminant by contacting the immobilized superantigen containing the adsorbed protein with a first wash buffer comprising caproate, heptanoate, 50 mM to 125 mM sodium caprylate or decanoate; and c) eluting the protein from the superantigen immobilized on the solid support, wherein the superantigen is selected from the group consisting of Protein A, Protein G, and Protein L and wherein the at least one contaminant is a host cell protein or host cell DNA.

2. The method according to claim 1, wherein the wash buffer comprises sodium decanoate.

3. The method according to claim 1 or claim 2, wherein the wash buffer comprises 1 mM to 30 mM sodium decanoate.

4. The method according to any preceding claim, wherein the wash buffer comprises 50 mM, 75 mM, or 100 mM sodium caprylate or 20 mM sodium decanoate.

5. The method according to any preceding claim, wherein the wash buffer further comprises 100 mM to 400 mM sodium acetate, optionally 300 mM sodium acetate.

6. The method according to any preceding claim, wherein the host cell is a mammalian cell selected from the group consisting of CHO cells, NS0 cells, Sp2/0 cells, COS cells, K562 cells, BHK cells, PER.C6 cells, and HEK cells.

7. The method according to any preceding claim, wherein the protein is selected from the group consisting of soluble receptor, antibody, antibody fragment, immunoglobulin single variable domain, Fab, F(ab')2, Fv, disulphide linked Fv, scFv, closed conformation multispecific antibody, disulphide-linked scFv, or diabody.

8. The method according to any preceding claim, wherein the solution is a cell culture feedstream.

9. The method of any preceding claim, wherein the wash buffer further comprises an organic acid, an alkaline metal or ammonium salt of the conjugate base of the organic acid, and an organic base and wherein the wash buffer is made without the addition of NaCl.

10. The method of claim 9, wherein the organic acid is selected from the group consisting of formic acid, acetic acid, lactic acid, citric acid, malic acid, maleic acid, glycine, glycylclycine, succinic acid, TES (2-{[tris(hydroxymethyl)methyl]amino}ethanesulfonic acid), MOPS (3-(N-morpholino)propanesulfonic acid), PIPES (piperazine-N,N′-bis(2-ethanesulfonic acid)), and MES (2-(N-morpholino)ethanesulfonic acid) or

wherein the organic base is selected from the group consisting of tris base, Bis-tris, Bis-tris-Propane, Bicine (N,N-bis(2-hydroxyethyl)glycine), HEPES (4-2-hydroxyethyl-1-piperazineethanesulfonic acid), TAPS (3-{[tris(hydroxymethyl)methyl]amino}propanesulfonic acid), and Tricine (N-tris(hydroxymethyl)methylglycine).

11. The method of any one of claims 9 or 10 wherein the conjugate base of the organic acid is the sodium, potassium, or ammonium salt of the conjugate base of the organic acid.

12. A method for purifying a protein from a contaminated solution thereof by Protein A chromatography comprising:

(a) equilibrating a Protein A immobilized on a solid phase with a Protein A equilibration buffer;

(b) adsorbing the protein from the contaminated solution to the Protein A immobilized on the solid phase;

(c) removing at least one contaminant by washing the solid phase with a first Protein A wash buffer comprising 50 mM to 55 mM tris base, 45 mM to 55 mM acetic acid, at least one aliphatic carboxylate, at pH 7.2 to 8.0, wherein the aliphatic carboxylate is selected from the group consisting of 100 mM sodium caprylate and 20 mM sodium decanoate; and
(d) recovering the protein from the solid phase with a Protein A elution buffer, wherein all the buffers are made without the addition of NaCl, and wherein the at least one contaminant is a host cell protein or host cell DNA.

13. The method of claim 12, further comprising the following step after step (c) and before step (d): removing contaminants by washing the solid phase with a second Protein A wash buffer comprising 50-55 mM tris base, 45-50 mM acetic acid, at pH 7.2, wherein the second Protein A wash buffer is made without the addition of NaCl.

14. The method of claim 12 or 13, further comprising the following steps after step (d): (e) titrating the solution containing the recovered protein to pH 3.0 with 30 mM acetic acid, 100 mM HCl; (f) allowing the solution of step (e) to remain at pH 3.0 for 30 to 60 minutes; and (g) adjusting the pH of the solution of step (f) to pH 7.5 with 1 M tris, optionally further comprising filtering the solution produced by step (g).

15. A method for purifying a protein from a contaminated solution thereof by Protein L chromatography comprising:

(a) equilibrating a Protein L immobilized on a solid phase with a Protein L equilibration buffer;

(b) adsorbing the protein from the contaminated solution to the Protein L immobilized on the solid phase;

(c) removing at least one contaminant by washing the solid phase with a first Protein L wash buffer comprising 50 mM to 55 mM tris base, 45 mM to 50 mM acetic acid, at least one aliphatic carboxylate, at pH 7.), wherein the aliphatic carboxylate is selected from the group consisting of 100 mM sodium caprylate and 20 mM sodium decanoate; and

(d) recovering the protein from the solid phase with a Protein L elution buffer, wherein all the buffers are made without the addition of NaCl, and wherein the at least one contaminant is a host cell protein or host cell DNA.

16. The method of claim 15, further comprising the following step after step (c) and before step (d): removing contaminants by washing the solid phase with a second Protein L wash buffer comprising 55 mM tris base, 45 mM acetic acid, at pH 7.2, wherein the second Protein L wash buffer is made without the addition of NaCl.

17. The method of claim 15 or 16, further comprising the following steps after step (d): (e) titrating the solution containing the recovered protein to pH 3.0 with 30 mM acetic acid, 100 mM HCl; (f) allowing the solution of step (e) to remain at pH 3.0 for 30 to 60 minutes; and

(g) adjusting the pH of the solution of step (f) to pH 7.5 with 1 M tris, optionally further comprising filtering the solution produced by step (g).

18. The method of claim 12 or 15, wherein the Protein A or Protein L wash buffer further comprises 1 mM to 500 mM sodium acetate, optionally 300 mM sodium acetate.

19. A method for purifying a protein, from a solution containing at least one contaminant by superantigen chromatography comprising: a) adsorbing the protein to the superantigen immobilized on a solid support; b) removing the at least one contaminant by contacting the immobilized superantigen containing the adsorbed protein with a first wash buffer comprising about 100 mM sodium caprylate; and c) eluting the protein from the superantigen immobilized on the solid support, wherein about means ±20%, wherein the superantigen is selected from the group consisting of Protein A, Protein G, and Protein L, and wherein the at least one contaminant is a host cell protein or host cell DNA.