What is claimed:

1. A method for purifying a protein, from a solution containing at least one contaminant by superantigen affinity 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 an aliphatic carboxylate, wherein said aliphatic carboxylate comprises a 6-11 carbon backbone; and c) eluting the protein from the superantigen immobilized on the solid support.

2. The method according to claim 1 wherein the superantigen is selected from the group consisting of Protein A, Protein G, and Protein L.

3. The method according to any preceding claim wherein the aliphatic carboxylate is selected from the group consisting of caproate, heptanoate, caprylate, and decanoate.

4. The method according to any preceding claim wherein the source of the aliphatic carboxylate is selected from the group consisting of an aliphatic carboxylic acid, a sodium salt of an aliphatic carboxylic acid, and a potassium salt of an aliphatic carboxylic acid.

5. The method according to any preceding claim wherein the wash buffer comprises sodium caprylate, or sodium decanoate.

6. The method according to any preceding claim wherein the wash buffer comprises about 10 mM to about 125 mM sodium caprylate, or about 1 mM to about 30 mM sodium decanoate.

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

25. The method of any one of claims 22-24 wherein the conjugate base of the organic acid is the sodium, potassium, or ammonium salt of the conjugate base of the organic acid.

26. The method of any one of claims 22-25 wherein the organic acid is acetic acid.

27. The method of any one of claims 22-26 wherein the organic base is tris base.

28. The method of any one of claims 22-27 wherein the organic acid is acetic acid and the conjugate base of acetic acid is the sodium salt.

29. 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 about 50 mM to about 55 mM tris base, about 45 mM to about 55 mM acetic acid, at least one aliphatic carboxylate, at about pH 7.2 to about 8.0, wherein the aliphatic carboxylate is selected from the group consisting of about 100 mM sodium caprylate, and about 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.

30. The method of claim 29, wherein the equilibration buffer comprises about 50 mM to about 55 mM tris base, about 45 mM to about 50 mM acetic acid, at about pH 7.2; and the elution buffer comprises 1.8 mM sodium acetate and about 28.2 mM to about 300 mM acetic acid, at about pH 2.4 to about pH 3.6.

31. The method of claim 29 or 30, 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 about 50-55 mM tris base, about 45-50 mM acetic acid, at about pH 7.2, wherein the second Protein A wash buffer is made without the addition of NaCl.

32. The method of any one of claims 29-31, further comprising the following steps after step (d): (e) titrating the solution containing the recovered protein to about pH 3.0 with 30 mM acetic acid, 100 mM HCl; (f) allowing the solution of step (e) to remain at about pH 3.0 for about 30 to about 60 minutes; and (g) adjusting the pH of the solution of step (f) to about pH 7.5 with 1 M tris.

33. The method of claim 32 further comprising filtering the solution produced by step (g).

34. 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 about 50 mM to about 55 mM tris base, about 45 mM to about 50 mM acetic acid, at least one aliphatic carboxylate, at about pH 7.5, wherein the aliphatic carboxylate is selected from the group consisting of about 100 mM sodium caprylate, and about 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.

35. The method of claim 34, wherein the equilibration buffer comprises about 50 mM to about 55 mM tris base, about 45 mM to about 50 mM acetic acid, at about pH 7.2; and the elution buffer comprises about 1.8 mM sodium acetate and about 28.2 mM to about 300 mM acetic acid, at about pH 2.4 to about pH 3.6.

36. The method of claim 34 or 35, 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 about pH 7.2, wherein the second Protein L wash buffer is made without the addition of NaCl.

37. The method of any one of claims 34-36, further comprising the following steps after step (d): (e) titrating the solution containing the recovered protein to about pH 3.0 with 30 mM acetic acid, 100 mM HCl; (f) allowing the solution of step (e) to remain at about pH 3.0 for about 30 to about 60 minutes; and (g) adjusting the pH of the solution of step (f) to about pH 7.5 with 1 M tris.

38. The method of claim 37 further comprising filtering the solution produced by step (g).

39. The method of claim 29 or 34, wherein the Protein A or Protein L wash buffer further comprises about 1 mM to about 500 mM sodium acetate.

40. The method of claim 39, wherein the Protein A or Protein L wash buffer comprises about 300 mM sodium acetate.

41. The method according to any preceding claim wherein the solution is a cell culture feed stream.