CLAIMS

What is claimed is:

1. A method of preserving the binding capacity of an affinity chromatography column over one or more affinity purification cycles, the method comprising cleaning the chromatography column after one or more affinity purification cycles with an acidic solution having a pH lower than 3.0 or an alkaline solution, wherein the affinity chromatography column comprises a Protein A media comprising a Protein A ligand derived from the C domain of *Staphylococcus aureus* Protein A immobilized onto a solid support comprising a polymer selected from the group consisting of polyvinylether, polyvinylalcohol, polymethacrylate, polyacrylate, polystyrene, polyacrylamide, polymethacrylamide and polycarbonate.
2. The method of claim 1, wherein the Protein A ligand comprises an amino acid sequence selected from SEQ ID NO:3 and SEQ ID NO:4.
3. The method of claim 1, wherein the acidic solution comprises a pH of 2.5.
4. The method of claim 1, wherein the acidic solution comprises a pH of 2.0.
5. The method of claim 1, wherein the acidic solution comprises a pH of 1.5.
6. The method of claim 1, wherein the binding capacity is preserved over 10 or more cycles.
7. The method of claim 1, wherein the binding capacity is preserved over 50 or more cycles.
8. The method of claim 1, wherein the binding capacity is preserved over 100 or more cycles.
9. The method of claim 1, wherein the binding capacity is preserved over 200 or more cycles.
10. The method of claim 1, wherein the solid support comprises a polyvinylether polymer.
11. The method of claim 1, wherein the acidic solution comprises phosphoric acid.
12. A method of sanitizing an affinity chromatography column after a campaign multiple bind and elute cycles while maintaining the binding capacity of the column, wherein the method comprises contacting the affinity chromatography column with a solution comprising phosphoric acid, acetic acid and benzyl alcohol

for at least three hours or with an alkaline solution, and wherein the affinity chromatography column comprises a Protein A media comprising a Protein A ligand derived from the C domain of *Staphylococcus aureus* Protein A immobilized onto a solid support comprising a polymer selected from the group consisting of polyvinylether, polyvinylalcohol, polymethacrylate, polyacrylate, polystyrene, polyacrylamide, polymethacrylamide and polycarbonate.

13. The method of claim 12, wherein the Protein A ligand comprises an amino acid sequence selected from SEQ ID NO:3 and SEQ ID NO:4.
14. The method of claim 12, wherein the solid support comprises a polyvinylether polymer.
15. A method of cleaning an affinity chromatography column using both acidic and alkaline solutions, the method comprising:
    a. contacting the column with both acidic and alkaline solutions between affinity purification cycles; or
    b. contacting the column with either an acidic solution after a cycle or an alkaline solution after a cycle, such that the acidic and alkaline solutions are used in an alternating manner,

    wherein the affinity chromatography column comprises a Protein A media comprising a Protein A ligand derived from the C domain of *Staphylococcus aureus* Protein A immobilized onto a solid support.
16. The method of claim 15, wherein the solid support comprises a polymer selected from the group consisting of polyvinylether, polyvinylalcohol, polymethacrylate, polyacrylate, polystyrene, polyacrylamide, polymethacrylamide and polycarbonate.
17. The method of claim 15, wherein the acidic solution comprises phosphoric acid.
18. The method of claim 15, wherein the alkaline solution comprises sodium hydroxide.
19. The method of claim 15, wherein the method results in a synergistic removal of impurities.
20. The method of claim 15, wherein the ligand comprises an amino acid sequence selected from SEQ ID NO:3 or SEQ ID NO: 4.