CLAIMS

1. A method for determing whether activated carbon can be used for the removal of viruses from a sample containing a target protein, the method comprising the steps of:

   (a) providing a portion of a sample comprising a target protein;

   (b) adding a virus to the portion of the sample in the amount ranging from 10^4 to 10^9 PFU/mL;

   ~~(b)~~ (c) flowing the portion of the sample through a column packed with activated carbon;

   ~~(c)~~ (d) collecting one or more flow-through fractions from the column; and

   ~~(d)~~ (e) measuring the virus amount in the one or more flow-through fractions, wherein a reduction in the virus amount in the one or more flow-through fractions by at least 3.0 LRV is indicative that activated carbon can be used for the removal of viruses from the sample.
2. The method of claim 1, wherein the sample comprises a protein concentration equal to or greater than 0.2 g/L.
3. The method of claim 1, wherein the sample comprises a protein concentration equal to or greater than 0.5 g/L.
4. The method of claim 1, wherein the sample comprises a protein concentration equal to or greater than 1 g/L.
5. The method of claim 1, wherein the sample comprises a pH in the range of 3.0-10.0 and/or a salt concentration less than 0.5M.
6. The method of claim 1, wherein the virus is selected from the group consisting of a retrovirus, a retrovirus-like particle, and a parvovirus.
7. The method of claim 1, wherein the virus is selected from minute virus of mice and xenotropic murine leukemia virus.
8. The method of claim 1, wherein the sample comprises a cell culture feed.
9. The method of claim 6, wherein the cell culture feed is a CHO cell culture feed.
10. The method of claim 1, wherein the target protein is a recombinant protein.
11. The method of claim 1, wherein the target protein is a therapeutic protein.
12. The method of claim 1, wherein the target protein is an antibody.
13. The method of claim 10, wherein the antibody is a monoclonal antibody.

14. The method of claim 1, wherein the sample comprises a clarified cell culture feed.
15. The method of claim 14, wherein clarified cell culture feed is obtained using one or more methods selected from centrifugation, settling, depth filtration, screen filtration, flocculation, use of a stimulus responsive polymers and pH change.
16. The method of claim 1, wherein the sample comprises an eluate obtained from a Protein A chromatography column, wherein the eluate comprises the target protein.
17. The method of claim 1, wherein step ~~(d)~~ (e) employs one or more methods selected from the group consisting of 50% tissue culture infectious dose (TCID50) assay, plaque-forming unit assay, focus-forming unit assay, lethal dose 50% assay, hemagglutination assay, fluorescent focus assay (FFA), bicinchoninic acid assay (BCA), single radial immunodiffusion assay (SRID), quantitative polymerase chain reaction (qPCR), enzyme-linked immunosorbent assay (ELISA), and transmission electron microscopy.