CLAIMS

1. A method of detecting ~~and~~ or separating and for removing an infectious prion protein, PrPsc, from a sample comprising contacting the sample with the prion protein binding material under conditions allowing formation of a complex between the infectious prion protein and the prion protein binding material, wherein the prion binding material comprises a functional group, wherein the functional group is a hydrophilic, a hydrophobic, or an amphiphilic functional group selected from the group consisting of: $-OCH_2-CHOH-CH_2NH_2$, $-C_6H_5$, $-(CH_2)_3-CH_3$, $-CH_2-CH_2-N^+H(CH_3)_2$, $-CH_2-CH_2-N^+(CH_3)_3$, a dimethylaminoethyl group and a trimethylaminoethyl group.

2. The method of Claim 1, wherein the binding material comprises aluminum or silica.

3. The method of any one of Claims 1-2, wherein the binding material comprises a polymer matrix.

4. The method of Claim 3, wherein the polymer matrix is a polymethacrylate or a methacrylate.

5. The method of Claim 3, wherein the polymer matrix is a polymethacrylate resin.

6. The method of Claim 3, wherein the polymer matrix is a hydroxyl polymethacrylate resin.

7. The method of any one of Claims 1-6, wherein the functional group is $-OCH_2-CHOH-CH_2NH_2$.

8. The method of any preceding claim, wherein the binding material is in bead form.

9. The method of any one of Claims 1-8, wherein the sample is a biological sample, a food product, an environmental sample, or a water sample.

10. The method of any one of Claims 1-9, wherein the sample comprises up to 50% of serum albumin by weight.