What is claimed is:

1. A lyophilized cake comprising:

(a) a protein;

(b) a stabilizer;

(c) a buffer; and

(d) a moisture content of between ~~about~~ 3% and ~~about~~ 10% by weight,

wherein the lyophilized cake is not collapsed.

2. The lyophilized cake of claim 1, wherein said lyophilized cake:

(a) comprises no yellow, no brown, no black, and no red color;

(b) is not melted, not shrunken, and comprises no density variation; and/or

(c) comprises a glass transition temperature above 25ºC.

3. The lyophilized cake of claim 1 or 2, comprising ~~about~~ 3% to ~~about~~ 7% water by weight or ~~about~~ 5% to ~~about~~ 8% water by weight.

4. The lyophilized cake of any one of claims 1-3, comprising about 3%, about 3.5%, about 4%, about 4.5%, about 5%, about 5.5%, about 6%, or about 6.5% water by weight.

5. The lyophilized cake of claim 1, wherein less than ~~about~~ 0.6% of said protein is aggregated after three months at room temperature.

6. The lyophilized cake of claim 1, wherein an increase in the amount of aggregated protein in said lyophilized cake stored for about 18 months or about 24 months at room temperature is less than 2%, and wherein said aggregated protein is detected by size exclusion chromatography or electrophoresis.

7. The lyophilized cake of any one of claims 1-6, wherein said buffer comprises histidine, optionally wherein said histidine is present at ~~about~~ 0.34% to ~~about~~ 2.04% by weight.

8. The lyophilized cake of any one of claims 1-7, wherein said stabilizer is:

(a) selected from the group consisting of a polyol, a sugar, an amino acid, a salt, and combinations thereof, optionally wherein (i) said polyol is selected from the group consisting of sorbitol, glycerol, mannitol, and a combination thereof; (ii) said sugar is selected from the group consisting of trehalose, sucrose, and a combination thereof; (iii) said amino acid is selected

from the group consisting of arginine, alanine, proline, glycine, sodium chloride, and a combination thereof; and (iv) said salt is sodium chloride;

(b) present at ~~about~~ 19% to ~~about~~ 83% by weight;

(c) comprises sucrose, optionally wherein the sucrose is present at ~~about~~ 15% to ~~about~~ 71% by weight; and/or

(d) comprises trehalose, optionally wherein the trehalose is present at ~~about~~ 15% to ~~about~~ 70% by weight.

9. The lyophilized cake of claim 8(c), wherein said stabilizer further comprises:

(a) arginine, optionally wherein said arginine is present at ~~about~~ 4% to ~~about~~ 20% by weight; or

(b) mannitol, optionally wherein said mannitol is present at ~~about~~ 8% to ~~about~~ 23% by weight.

10. The lyophilized cake of claim 8(d), wherein said stabilizer further comprises:

(a) arginine, optionally wherein said arginine is present at ~~about~~ 0.8% to ~~about~~ 15% arginine by weight; or

(b) sorbitol, optionally wherein said sorbitol is present at ~~about~~ 1.3% to ~~about~~ 23% sorbitol by weight.

11. The lyophilized cake of any one of claims 1-10, further comprising a surfactant, optionally wherein:

(a) said surfactant is selected from the group consisting of polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, polyethylene glycol (PEG), PEG 3350, and a combination thereof; or

(b) said surfactant is present at ~~about~~ 0.02% to ~~about~~ 1% by weight.

12. The lyophilized cake of any one of claims 1-11, wherein said protein is present from ~~about~~ 6% to ~~about~~ 64% by weight, from ~~about~~ 6% to ~~about~~ 19% by weight, or from ~~about~~ 33% to ~~about~~ 64% by weight.

13. The lyophilized cake of any one of claims 1-12, wherein said protein is an antigen-binding protein, optionally wherein said antigen-binding protein is selected from the group consisting of antibody, antibody fragment, and receptor-Fc-fusion protein.

14. The lyophilized cake of any one of claims 1-13, wherein said lyophilized cake is contained within a vial, wherein said vial comprises type I borosilicate glass and is closed with a polytetrafluorethylene coated butyl rubber stopper.

15. A lyophilized cake comprising:

(a) a protein;

(b) a stabilizer at a ratio of about 0.2 parts stabilizer to 1 part protein by weight (0.2:1) to about 1.5 parts stabilizer to 1 part protein by weight (1.5:1); and

(c) water at a concentration no less than ~~about~~ 3% by weight and no more than ~~about~~ 10% by weight,

wherein said lyophilized cake is free of discoloration.

16. The lyophilized cake of claim 15, wherein the ratio of the stabilizer to protein by weight is selected from the group consisting of about 0.22:1, 0.44:1, 0.65:1, 0.87:1, 1.1:1, 1.3:1 by weight.

17. The lyophilized cake of claim 15 or 16, wherein said stabilizer:

(a) is selected from the group consisting of a non-reducing sugar, a sugar alcohol, an amino acid, and a combination thereof, optionally wherein said non-reducing sugar comprises sucrose or trehalose; said sugar alcohol is selected from the group consisting of sorbitol, mannitol, and glycerol; and said amino acid is selected from the group consisting of arginine, alanine, proline, and glycine;or

(b) comprises sucrose or trehalose.

18. The lyophilized cake of claim 17(b) further comprising arginine, mannitol or sorbitol, optionally wherein:

(a) the ratio of sucrose to arginine is ~~about~~ 3.2:1 to ~~about~~ 3.4:1 by weight;

(b) the ratio of sucrose to mannitol is ~~about~~ 1.8:1 to ~~about~~ 2:1 by weight;

(c) the ratio of trehalose to arginine is ~~about~~ 3.2:1 to ~~about~~ 3.4:1 by weight; or

(d) the ratio of trehalose to sorbitol is ~~about~~ 1:1 to ~~about~~ 2:1 by weight.

19. The lyophilized cake of any one of claims 15-18, wherein degraded protein comprises a dimer of said protein, a trimer of said protein, a tetramer of said protein, a higher order multimer of said protein, a chemically modified protein, and a combination thereof.

20. The lyophilized cake of any one of claims 15-19, wherein said protein is selected from the group consisting of an antibody, an antibody fragment, and a receptor-Fc-fusion protein.

21. The lyophilized cake of any one of claims 15-20, further comprising a buffer, optionally wherein said buffer is selected from the group consisting of citrate, phosphate, histidine, succinate, carbonate, acetate, and a combination thereof.

22. The lyophilized cake of any one of claims 15-21, wherein said discoloration is selected from the group consisting of red, yellow, brown, black, and a combination thereof.

23. The lyophilized cake of any one of claims 15-22, wherein said lyophilized cake is contained within a vial or a syringe, optionally wherein said vial comprises type I borosilicate glass and a polytetrafluoroethylene coated butyl rubber stopper.

24. A method of making a pharmaceutically acceptable lyophilized cake, said method comprising:

(a) a drying step that removes water from a sample comprising a protein, a stabilizer, and water to attain a pharmaceutically acceptable lyophilized cake comprising a moisture content between ~~about~~ 3% and ~~about~~ 10% by weight; and

(b) heating said lyophilized cake at a temperature below the glass transition temperature of said pharmaceutically acceptable lyophilized cake.