WHAT IS CLAIMED IS:

1. A stable protein solution, comprising:

(i) 0.1% to 30% w/v of protein, based on the volume of the solution;

(ii) 0.001% to 5% w/v of a stabilizer; based on the volume of the solution; and

(iii) 0.5 U to 50 U of protein deamidating enzyme activity or 0.1% to 10% w/w of a protein deamidating enzyme, based on the weight of the protein in the solution,

wherein the solution has a pH of from 3.5 to 5.5 and is stable against precipitation of the protein, and wherein the stabilizer comprises one or more of xanthan gum, gellan gum, carrageenan gum, cassia gum, locust bean gum, tara gum, psyllium seed gum, gelatin, tamarind seed gum, gum arabic, propylene glycol alginates, pectin, galactomannan (guar gum), pullulan, carboxymethylcellulose (CMC), methylcellulose (MC), and derivatives or combinations of any thereof.

2. The solution of claim 1, wherein the protein deamidating enzyme is a protein glutaminase deamidating enzyme that deamidates amido groups of glutamine residues of the protein.

3. The solution of claim 1, wherein the protein deamidating enzyme is a protein asparaginase deamidating enzyme that deamidates amido groups of asparagine residues of the protein.

4. The solution of any one of claims 1-3, wherein the protein comprises one or more selected from a plant protein, a dairy protein, and an insect protein.

5. The solution of claim 4, wherein the protein comprises a plant protein selected from one or more of soy, pea, lentil, chick pea, legume, hemp, rice, nut, wheat, and gluten proteins.

6. The solution of claim 5, wherein the nut is peanut, almond, or hazelnut.

7. The solution of claim 4, wherein the protein comprises whey protein.

8. The solution of claim 4, wherein the protein comprises an insect protein selected from one or more of cricket, mole cricket, silk worm, sago worm, grasshopper, scorpion, diving beetle, waterbug, earth worm, mealworm, and spider proteins.

9. The solution of any one of the preceding claims, wherein the stabilizer comprises one or more of a gum, a polysaccharide, and a collagen.

10. The solution of any one of the preceding claims, wherein the protein deamidating enzyme is produced by bacteria selected from *Chryseobacterium, Flavobacterium, Enpedobacter, Sphingobacterium, Aureobacterium, Myroides, Cytophagales, Actinomycetes,* and *Flavobacteriaceae*.

11. The solution of any one of the preceding claims, wherein the protein deamidating enzyme is produced by a *Penicillium* microorganism.

12. The solution of any one of the preceding claims, wherein the protein deamidating enzyme is Protein Glutaminase Amano 500 (PGA 500).

13. The solution of any one of the preceding claims, wherein the protein deamidating enzyme comprises the amino acid sequence of SEQ ID NO:1, or a sequence having at least 75%, at least 80%, at least 85%, at least 90%, at least 95%, at least 97%, at least 98%, or at least 99% identity thereto and having protein deamidating enzyme activity.

14. The solution of any one of the preceding claims, wherein the protein deamidating enzyme comprises a variant amino acid sequence of SEQ ID NO:1, having protein deamidating enzyme activity and having one or more substitution or deletions at amino acid residues 35, 38-43, 45, 46, 49, 79-84, 103-106, 117, 142, 143, 146, 166, or 185 of SEQ ID NO:1, optionally wherein the variant sequence is at least 75%, at least 80%, at least 85%, at least 90%, at least 95%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO:1.

15. The solution of any one of claims 1-14, wherein the solution comprises:
(i) 0.001% to 1% w/v of a stabilizer; based on the volume of the solution; and
(ii) 5 U to 50 U of protein deamidating enzyme activity or 1% to 10% w/w of a protein deamidating enzyme, based on the weight of the protein in the solution.

16. The solution of any one of claims 1-15, wherein the solution has a viscosity of from 10 to 250 mPa·s.

17. The solution of claim 16, wherein the solution comprises 5% to 15% w/v of the protein, based on the volume of the solution.

18. The solution of claim 16, wherein the solution comprises 0.01% to 1% w/v, or 0.02% to 0.5% w/v, of the stabilizer, based on the volume of the solution.

19. The solution of claim 16, wherein the solution comprises from 5 U to 25 U of protein deamidating activity or from 1% w/w to 5% w/w of the protein deamidating enzyme, based on the weight of the protein in the solution.

20. The solution of any one of the preceding claims, wherein solution has a pH of from 4.0 to 5.0.

21. The solution of any one of the preceding claims, wherein the solution is stable against visible precipitation of the protein after storage at 4°C for a period of time selected from 7 days, 14 days, 21 days, 1 month, 2 months, 4 months, 6 months, and 8 months.

22. The solution of any one of the preceding claims, wherein the solution is formulated as a beverage or beverage additive for human or animal consumption.

23. A beverage or beverage additive for human or animal consumption, comprising the solution of any one of the preceding claims.

24. The beverage or beverage additive of claim 23, selected from a nutritional beverage, a sports drink, a functional protein drink, a dairy drink, a dairy smoothie, a fruit drink, a fruit smoothie, a coffee drink, a tea drink, a plant milk, a dairy creamer, and a non-dairy creamer.

25. The beverage or beverage additive of claim 23 or claim 24, further comprising one or more of a fruit juice, fruit juice concentrate, vegetable juice, and vegetable juice concentrate.

26. The beverage or beverage additive of claim 25, wherein the composition comprises an acidic juice or juice concentrate.

27. A method of making a solution of any one of claims 1-22 or beverage or beverage additive of any one of claims 23-26, comprising:

(a) adding the protein deamidating enzyme to a solution comprising the protein and the stabilizer to obtain a mixture;

(b) incubating the mixture; and

(c) adjusting a pH of the mixture to obtain a solution with a pH of from 3.5 to 5.5.

28. The method of claim 27, further comprising, prior to step (a) mixing (i) a solution comprising the protein and (ii) a solution comprising the stabilizer.

29. The method of claim 27, wherein the incubating is at a temperature of from 30°C to 70°C and for a period of from 0.5 hour to 48 hours with agitation with a pH of from 3.0 to 8.0.

30. The method of claim 29, wherein the incubating is at a temperature of from 40°C to 60°C and for a period of from 3 hours to 24 hours with slow agitation with a pH of from 5.0 to 8.0.

31. The method of any one of claims 27-30, wherein the incubating is conducted until the enzyme reaction reaches a desired level of completion, as determined by the concentration of free ammonium ions in the solution.

32. The method of any one of claims 27-31, wherein the acidifying comprises adding an acidic juice or juice concentrate.

33. The method of any one of claims 27-32, wherein the protein deamidating enzyme is Protein Glutaminase Amano 500 (PGA 500) and/or has the amino acid sequence of SEQ ID NO:1, and the incubating is at 50°C for 3 hours.

34. The method of any one claims 27-33, further comprising subjecting the solution pasteurizing to a heat treatment of 85°C for 10 minutes.

35. The method of any one of claims 27-34, further comprising subjecting the solution to one or more treatments selected from homogenization, pasteurization, and sterilization.

36. The method of claim 35, wherein the solution is subject to homogenization at a pressure of from 2,000 psi to 20,000 psi.

37. The method of claim 35, wherein the solution is subjected to pasteurization performed using High Temperature Short Time (HTST) pasteurization at 100°C for 10 seconds to 20 seconds, Ultra High Temperature (UHT) pasteurization at 120°C for 1 second to 3 seconds, or Low Temperature Long Time (LTLT) pasteurization at from 75°C to 85°C for 10 minutes to 20 minutes.

38. The method of claim 35, wherein the solution is subjected to high pressure (hyperbaric) sterilization.