a concentration of less than 800 ppm, sodium in a concentration of less than 400 ppm, and phosphorus in a concentration of less than 500 ppm.

[0011] A liquid nutritional composition according to one exemplary embodiment comprises calcium beta-hydroxy-beta-methylbutyrate, protein, and potassium in a concentration of less than 800 ppm.

[0012] A liquid nutritional composition according to one exemplary embodiment comprises calcium beta-hydroxy-beta-methylbutyrate, protein, and sodium in a concentration of less than 400 ppm.

[0013] A liquid nutritional composition according to one exemplary embodiment comprises calcium beta-hydroxy-beta-methylbutyrate, protein, and phosphorus in a concentration of less than 500 ppm.

[0014] A method of reducing muscle loss in an individual with a metabolic disorder according to one exemplary embodiment is also disclosed. The method comprises administering to the individual with the metabolic disorder a liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, potassium in a concentration of less than 800 ppm, sodium in a concentration of less than 400 ppm, and phosphorus in a concentration of less than 500 ppm.

[0015] A method of reducing muscle loss in an individual with diabetes according to one exemplary embodiment is also disclosed. The method comprises administering to the individual with diabetes a liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, potassium in a concentration of less than 800 ppm, sodium in a concentration of less than 400 ppm, and phosphorus in a concentration of less than 500 ppm.

[0016] In one embodiment, there is provided a liquid nutritional composition as described herein for use in reducing muscle loss in an individual with a metabolic disorder, diabetes, or chronic kidney dysfunction.

[0016a] A method of reducing muscle loss in an individual with chronic kidney dysfunction according to one exemplary embodiment is also disclosed. The method comprises administering to the individual with chronic kidney dysfunction a liquid

WHAT IS CLAIMED IS:

1. A liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, potassium in a concentration of less than 800 ppm, sodium in a concentration of less than 400 ppm, and phosphorus in a concentration of less than 500 ppm.

2. The liquid nutritional composition of claim 1, wherein the potassium is in a concentration of less than 500 ppm, the sodium is in a concentration of less the 350 ppm, and the phosphorus is in a concentration of less th6an 400 ppm.

3. The liquid nutritional composition of claim 1 further comprising fat and carbohydrate.

4. The liquid nutritional composition of claim 3, wherein the fat is selected from the group consisting of high oleic safflower oil, high oleic sunflower oil, canola oil, soy oil, corn oil, and combinations thereof.

5. The liquid nutritional composition of claim 3, wherein the fat includes at least one polyunsaturated fatty acid.

6. The liquid nutritional composition of claim 5, wherein the at least one polyunsaturated fatty acid is selected from the group consisting of DHA, ARA, EPA, and combinations thereof.

7. The liquid nutritional composition of claim 3, wherein the protein is selected from the group consisting of milk protein concentrate, milk protein isolate, soy protein concentrate, soy protein isolate, intact pea protein concentrate, intact pea protein isolate, sodium caseinate, calcium caseinate, whey protein concentrate, whey protein isolate, and combinations thereof.

8. The liquid nutritional composition of claim 3, wherein the carbohydrate is selected from the group consisting of maltodextrin, corn syrup solids, corn syrup, tapioca

dextrin, isomaltulose, digestion resistant maltodextrin, sucromalt, maltitol powder, fructose, glycerin, fructooligosaccharide, soy fiber, corn fiber, guar gum, konjac flour, polydextrose, and combinations thereof.

9. The liquid nutritional composition of claim 3, further comprising a soy fiber.

10. The liquid nutritional composition of claim 3, further comprising a prebiotic.

11. The liquid nutritional composition of claim 10, wherein the prebiotic is selected from the group consisting of oligofructose, fructooligosaccharide, galactooligosaccharide, inulin, and combinations thereof.

12. The liquid nutritional composition of claim 1, wherein the calcium beta-hydroxy-beta-methylbutyrate is in sequestered form.

13. The liquid nutritional composition of claim 1, wherein the calcium beta-hydroxy-beta-methylbutyrate is in ion-exchanged form.

14. The liquid nutritional composition of claim 3, comprising protein in an amount of from about 1% to about 30% by weight, carbohydrate in an amount of from about 3% to about 65% by weight, and fat in an amount of from about 1% to about 20% by weight, wherein the protein comprises from about 1% to about 20% by weight intact pea protein.

15. The liquid nutritional composition of claim 14, wherein the protein comprises intact pea protein concentrate, milk protein concentrate, and soy protein isolate.

16. A method of reducing muscle loss in an individual with a metabolic disorder, the method comprising administering to the individual with the metabolic disorder the liquid nutritional composition of any one of claims 1 to 15.

17. A method of reducing muscle loss in an individual with diabetes, the method comprising administering to the individual with diabetes the liquid nutritional composition of any one of claims 1 to 15.

18. A method of reducing muscle loss in an individual with chronic kidney dysfunction, the method comprising administering to the individual with chronic kidney dysfunction the liquid nutritional composition of any one of claims 1 to 15.

19. A liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, and potassium in a concentration of less than 800 ppm.

20. The liquid nutritional composition of claim 19, wherein the potassium is in a concentration of less than 500 ppm.

21. The liquid nutritional composition of claim 19, wherein the potassium is in a concentration of from about 300 ppm to about 500 ppm.

22. A liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, and sodium in a concentration of less than 400 ppm.

23. The liquid nutritional composition of claim 22, wherein the sodium is in a concentration of less than 300 ppm.

24. The liquid nutritional composition of claim 22, wherein the sodium is in a concentration of less than 250 ppm.

25. A liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, and phosphorus in a concentration of less than 500 ppm.

26. The liquid nutritional composition of claim 25, wherein the phosphorus is in a concentration of less than 400 ppm.

27. The liquid nutritional composition of claim 25, wherein the phosphorus is in a concentration of less than 350 ppm.

28. The liquid nutritional composition of any one of claims 19 to 27 further comprising fat and carbohydrate.

29. The liquid nutritional composition of claim 28, wherein the fat is selected from the group consisting of high oleic safflower oil, high oleic sunflower oil, canola oil, soy oil, corn oil, and combinations thereof.

30. The liquid nutritional composition of claim 28, wherein the fat includes at least one polyunsaturated fatty acid.

31. The liquid nutritional composition of claim 30, wherein the at least one polyunsaturated fatty acid is selected from the group consisting of DHA, ARA, EPA, and combinations thereof.

32. The liquid nutritional composition of claim 28, wherein the protein is selected from the group consisting of milk protein concentrate, milk protein isolate, soy protein concentrate, soy protein isolate, intact pea protein concentrate, intact pea protein isolate, sodium caseinate, calcium caseinate, whey protein concentrate, whey protein isolate, and combinations thereof.

33. The liquid nutritional composition of claim 28, wherein the carbohydrate is selected from the group consisting of maltodextrin, corn syrup solids, corn syrup, tapioca dextrin, isomaltulose, digestion resistant maltodextrin, sucromalt, maltitol powder, fructose, glycerin, fructooligosaccharide, soy fiber, corn fiber, guar gum, konjac flour, polydextrose, and combinations thereof.

34. The liquid nutritional composition of claim 28, further comprising a soy fiber.

35. The liquid nutritional composition of claim 28, further comprising a prebiotic.

36. The liquid nutritional composition of claim 35, wherein the prebiotic is selected from the group consisting of oligofructose, fructooligosaccharide, galactooligosaccharide, inulin, and combinations thereof.

37. The liquid nutritional composition of any one of claims 19 to 27 wherein the calcium beta-hydroxy-beta-methylbutyrate is in sequestered form.

38. The liquid nutritional composition of any one of claims 19 to 27 wherein the calcium beta-hydroxy-beta-methylbutyrate is in ion-exchanged form.

39. The liquid nutritional composition of claim 28, comprising protein in an amount of from about 1% to about 30% by weight, carbohydrate in an amount of from about 3% to about 65% by weight, and fat in an amount of from about 1% to about 20% by weight, wherein the protein comprises from about 1% to about 20% by weight intact pea protein.

40. The liquid nutritional composition of claim 39, wherein the protein comprises intact pea protein concentrate, milk protein concentrate, and soy protein isolate.

WHAT IS CLAIMED IS:

1. A liquid nutritional composition comprising calcium beta-hydroxy-beta-methylbutyrate, protein, potassium in a concentration of less than 800 ppm, sodium in a concentration of less than 400 ppm, and phosphorus in a concentration of less than 500 ppm.

2. The liquid nutritional composition of claim 1, wherein the potassium is in a concentration of less than 500 ppm, the sodium is in a concentration of less than 350 ppm, and the phosphorus is in a concentration of less than 400 ppm.

3. The liquid nutritional composition of claim 1 further comprising fat and carbohydrate.

4. The liquid nutritional composition of claim 3, wherein the fat is selected from the group consisting of high oleic safflower oil, high oleic sunflower oil, canola oil, soy oil, corn oil, and combinations thereof.

5. The liquid nutritional composition of claim 3, wherein the fat includes at least one polyunsaturated fatty acid.

6. The liquid nutritional composition of claim 5, wherein the at least one polyunsaturated fatty acid is selected from the group consisting of DHA, ARA, EPA, and combinations thereof.

7. The liquid nutritional composition of claim 3, wherein the protein is selected from the group consisting of milk protein concentrate, milk protein isolate, soy protein concentrate, soy protein isolate, intact pea protein concentrate, intact pea protein isolate, sodium caseinate, calcium caseinate, whey protein concentrate, whey protein isolate, and combinations thereof.

8. The liquid nutritional composition of claim 3, wherein the carbohydrate is selected from the group consisting of maltodextrin, corn syrup solids, corn syrup, tapioca dextrin, isomaltulose, digestion resistant maltodextrin, sucromalt, maltitol powder, fructose, glycerin, fructooligosaccharide, soy fiber, corn fiber, guar gum, konjac flour, polydextrose, and combinations thereof.

9. The liquid nutritional composition of claim 3, further comprising a soy fiber.

10. The liquid nutritional composition of claim 3, further comprising a prebiotic.

11. The liquid nutritional composition of claim 10, wherein the prebiotic is selected from the group consisting of oligofructose, fructooligosaccharide, galactooligosaccharide, inulin, and combinations thereof.

12. The liquid nutritional composition of claim 3, comprising protein in an amount of from about 1% to about 30% by weight, carbohydrate in an amount of from about 3% to about 65% by weight, and fat in an amount of from about 1% to about 20% by weight, wherein the protein comprises from about 1% to about 20% by weight intact pea protein.

13. The liquid nutritional composition of claim 12, wherein the protein comprises intact pea protein concentrate, milk protein concentrate, and soy protein isolate.

14. The liquid nutritional composition of any one of claims 1 to 13, wherein the calcium beta-hydroxy-beta-methylbutyrate is in sequestered form.

15. The liquid nutritional composition of any one of claims 1 to 13, wherein the calcium beta-hydroxy-beta-methylbutyrate is in ion-exchanged form.

16. A liquid nutritional composition according to any one of claims 1 to 15 for use in reducing muscle loss in an individual with a metabolic disorder, diabetes, or chronic kidney dysfunction.