CLAIMS

The invention is claimed as follows:

1. A solid food product comprising
at least one source of solid ingredients selected from a group consisting of beta-glucans, crisps, rice crisps, rolled oats, fruit pieces, and combinations thereof; and
at least one reactive amino acid in a binder that is substantially free from any reducing sugars;
wherein the reactive amino acid is beta-alanine.

2. The solid food product according to Claim 1, wherein the reactive amino acid is selected from the group consisting of alanine, arginine, asparagine, aspartate, citrulline, cysteine, glutamate, glutamine, glycine, histidine, hydroxyproline, hydroxyserine, hydroxytyrosine, hydroxylysine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, taurine, threonine, tryptophan, tyrosine, valine, and combinations thereof.

~~3. The solid food product according to Claim 1, wherein the reactive amino acid is beta-alanine.~~

~~4. The solid food product according to Claim 1, wherein the reactive amino acid is carnosine.~~

~~5.~~3. The solid food product according to Claim 1, wherein the solid ingredients comprises at least one beta-glucan.

~~6.~~4. The solid food product according to Claim 1, wherein ~~the solid food product has good stability of~~ the reactive amino acid remains stable after about 12 months.

~~7.~~5. The solid food product according to Claim 1, wherein each serving size by weight of the solid food bar comprises from about 1.0 g to about 3.5 g of the reactive amino acid.

~~8.~~6. The solid food product according to Claim 1, wherein the binder consists essentially of one of a maltitol syrup, a sucrose syrup, or a maltitol and sucrose syrup blend.

~~9.~~7. The solid food product according to Claim 1, further comprising at least one source of protein that is low in reducing sugars.

~~10.~~8. The solid food product according to Claim ~~9~~ 7, wherein the source of protein is a source selected from the group consisting of animal-based, plant-based, dairy-based, artificial, and combinations thereof.

~~11.~~9. The solid food product according to Claim ~~9~~ 7, wherein the source of protein comprises less than about 0.2% lactose.

~~12.~~10. The solid food product according to Claim ~~9~~ 7, wherein the protein is at least one of: calcium caseinate, whey protein, soy protein isolate, milk protein, or combinations thereof.

~~13. A liquid food product comprising:~~

~~a reactive amino acid in an amount from about 1.0 g to about 10 g per about 100 to about 500 ml of a liquid, wherein the liquid food product has a pH from about 3 to about 5, wherein the liquid food product has good stability of the reactive amino acid after heating of the liquid food product at a temperature from about 70°C to about 90°C for an amount of time from about 45 minutes to about 75 minutes.~~

~~14. The liquid food product according to Claim 13, wherein the liquid food product is a ready-to-drink composition.~~

~~15. The liquid food product according to Claim 13, wherein the reactive amino acid is selected from the group consisting of alanine, arginine, asparagine, aspartate, citrulline, cysteine, glutamate, glutamine, glycine, histidine, hydroxyproline,~~

~~hydroxyserine, hydroxytyrosine, hydroxylysine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, taurine, threonine, tryptophan, tyrosine, valine, and combinations thereof.~~

~~16. The liquid food product according to Claim 13, wherein the reactive amino acid is carnosine.~~

~~17. The liquid food product according to Claim 13, wherein the reactive amino acid is beta-alanine.~~

~~18.~~11. A method for making a solid food product having improved stability of a reactive amino acid, the method comprising:

combining a reactive amino acid with a binder that is substantially free from any reducing sugars to form a binder composition; and

mixing the binder composition with solid ingredients selected from a group consisting of beta-glucans, crisps, rice crisps, rolled oats, fruit pieces, and combinations thereof to make a solid food product having an improved stability of the reactive amino acid;

wherein the reactive amino acid is beta-alanine.

~~19.~~12. The method according to Claim ~~15~~ 11, wherein the solid food product is selected from the group consisting of those claimed in Claim 1 to Claim ~~12~~ 10.

~~20. A method for improving the stability of a reactive amino acid in a liquid food product, the method comprising:~~

~~dissolving from about 1.0 g to about 10 g of a reactive amino acid per about 100 to about 500 ml of a liquid to make a liquid food product having an improved stability of the reactive amino acid;~~

~~heating the liquid food product at a temperature from about 70°C to about 90°C for an amount of time from about 45 minutes to about 75 minutes; and~~

~~wherein the liquid food product has a pH from about 3 to about 5.~~

~~21. The method according to Claim 17, wherein the solid food product is selected from the group consisting of those claimed in Claim 13 to Claim 17.~~

13. A solid food product comprising

at least one source of solid ingredients selected from a group consisting of beta-glucans, crisps, rice crisps, rolled oats, fruit pieces, and combinations thereof; and at least one reactive amino acid in a binder that is substantially free from any reducing sugars;

wherein the reactive amino acid is carnosine.

14. The solid food product according to Claim 13, wherein the reactive amino acid is selected from the group consisting of alanine, arginine, asparagine, aspartate, citrulline, cysteine, glutamate, glutamine, glycine, histidine, hydroxyproline, hydroxyserine, hydroxytyrosine, hydroxylysine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, taurine, threonine, tryptophan, tyrosine, valine, and combinations thereof.

15. The solid food product according to Claim 13, wherein the solid ingredients comprises at least one beta-glucan.

16. The solid food product according to Claim 13, wherein the reactive amino acid remains stable after about 12 months.

17. The solid food product according to Claim 13, wherein each serving size by weight of the solid food bar comprises from about 1.0 g to about 3.5 g of the reactive amino acid.

18. The solid food product according to Claim 13, wherein the binder consists essentially of one of a maltitol syrup, a sucrose syrup, or a maltitol and sucrose syrup blend.

19. The solid food product according to Claim 13, further comprising at least one source of protein that is low in reducing sugars.

20. The solid food product according to Claim 19, wherein the source of protein is a source selected from the group consisting of animal-based, plant-based, dairy-based, artificial, and combinations thereof.

21. The solid food product according to Claim 19, wherein the source of protein comprises less than about 0.2% lactose.

22. The solid food product according to Claim 19, wherein the protein is at least one of: calcium caseinate, whey protein, soy protein isolate, milk protein, or combinations thereof.

23. A method for making a solid food product having improved stability of a reactive amino acid, the method comprising:
combining a reactive amino acid with a binder that is substantially free from any reducing sugars to form a binder composition; and
mixing the binder composition with solid ingredients selected from a group consisting of beta-glucans, crisps, rice crisps, rolled oats, fruit pieces, and combinations thereof to make a solid food product having an improved stability of the reactive amino acid;
wherein the reactive amino acid is carnosine.

24. The method according to Claim 23, wherein the solid food product is selected from the group consisting of those claimed in Claim 13 to Claim 23.