

SUMMARY OF THE INVENTION

One embodiment of the invention is directed to nutritional powders, including powder infant formulas, comprising carbohydrate; lipid, comprising from about 0.25% to about 2.5 % lecithin by weight of total lipid; from about 90% to about 99.5% intact protein by weight of total protein; and from about 0.5% to about 10% of at least one hydrolyzed protein selected from the group consisting of hydrolyzed casein protein and hydrolyzed whey protein, by weight of total protein; wherein the hydrolyzed protein has a degree of hydrolysis of between about 23% and about 90%.

One embodiment of the invention is directed to a composition comprising

- (a) carbohydrate;
 - (b) lipid, comprising from about 0.25% to about 2.5% lecithin by weight of total lipid;
 - (c) from about 90% to about 99.5% of intact protein by weight of total protein; and
 - (d) from about 0.5% to about 10% of hydrolyzed whey protein, by weight of total protein;
- wherein the hydrolyzed whey protein has a degree of hydrolysis of between about 23% and about 90%, and wherein the composition is a nutritional powder.

One embodiment of the invention is directed to a composition comprising

- (a) carbohydrate;
 - (b) lipid, comprising from about 0.25% to about 2.5% lecithin by weight of total lipid;
 - (c) from about 90% to about 99.5% of intact protein by weight of total protein; and
 - (d) from about 0.5% to about 10% of hydrolyzed whey protein, by weight of total protein;
- wherein the hydrolyzed whey protein has a degree of hydrolysis of between about 23% and about 90%, and wherein the composition is an infant formula nutritional powder.

One embodiment of the invention is directed to a composition comprising

- (a) carbohydrate;
 - (b) lipid, comprising from about 0.25% to about 1.5% lecithin by weight of total lipid;
 - (c) from about 95% to about 99.5% of intact protein by weight of total protein; and
 - (d) from about 0.5% to about 5% of hydrolyzed whey protein, by weight of total protein;
- wherein the hydrolyzed whey protein has a degree of hydrolysis of between about 23% and about 90%, and wherein the composition is an infant formula nutritional powder.

It has been found, surprisingly, that the nutritional powder embodiments of the present invention have improved oxidative stability and improved sensory performance. It has been found that select levels of hydrolyzed casein protein, whey protein, or combinations thereof, and lecithin provide a synergistic antioxidant effect, and can therefore be formulated into nutritional powders to reduce oxidation and to provide better sensory performance over prolonged periods.

DETAILED DESCRIPTION OF THE INVENTION

The various nutritional powder embodiments described herein, including powder infant formulas and other oxidatively sensitive nutritional powders, comprise carbohydrate, lipid, protein, and select levels of lecithin and at least one hydrolyzed protein selected from hydrolyzed casein protein and hydrolyzed whey protein. These and other essential or optional elements of the nutritional powders are described in detail hereinafter.

The term "lipid" as used herein, unless otherwise specified, means any element of the nutritional powder formula soluble in an organic solvent, including fats, oils, and combinations thereof.

The term "total lipid" as used herein, unless otherwise specified, refers to the lipid component of the nutritional powder embodiments herein.

The term "total protein" as used herein, unless otherwise specified, refers to the protein component of the nutritional powder embodiments herein.