[0041] The RRR-alpha tocopherol is present in the nutritional compositions in concentrations of at least 7 mg/L, including at least 8 mg/L, including at least 9 mg/L, including at least 10 mg/L, including at least 15 mg/L, including at least 18 mg/L, including at least 20 mg/L, including from at least 7 mg/L to about 100 mg/L, including from at least 7 mg/L to about 50 mg/L, and including from about 20 mg/L to about 40 mg/L of the infant formula. The total amounts of RRR-alpha tocopherol include both exogenous and inherent amounts of RRR-alpha tocopherol, as noted above.

[0042] In some embodiments, the nutritional compositions include another additional tocopherol, particularly gamma-tocopherol, in addition to the RRR-alpha tocopherol. Gamma tocopherol has been used in food applications as an antioxidant, thereby preventing deterioration of foods and beverages resulting from oxidation of susceptible components such as some fats.

[0043] Gamma tocopherol, however, has now been found to negatively correlate with phospholipids. Accordingly, when present, the gamma tocopherol is present in the infant formulas in concentrations of less than 7 mg/L, including less than 5 mg/L, ~~including from 0 mg/L to 3 mg/L.~~ including from about 1 mg/L to 3 mg/L of the nutritional composition.

Long Chain Polyunsaturated Fatty Acids (LC-PUFAs)

[0044] The nutritional compositions of the present disclosure include LC-PUFAs in addition to the RRR-alpha tocopherol. LC-PUFAs are included in the nutritional compositions to provide nutritional support and benefits, as well as to support brain development in individuals, and specifically in infants. In some embodiments, the nutritional compositions include a combination of LC-PUFAs with the RRR-alpha tocopherol. Particularly suitable for use in the nutritional compositions in addition to the RRR-alpha tocopherol, are combinations of arachidonic acid (ARA) and docosahexaenoic acid (DHA).

[0045] DHA is an n-3 LC-PUFA and is abundant in the brain and retina, accounting for 40% of the LC-PUFAs in the brain and 60% of the LC-PUFAs in the

Claims:

1. A ready-to-feed liquid infant formula comprising:

a protein, a carbohydrate, and a lipid;

from 15 mg/L to 100 mg/L of RRR-alpha tocopherol, from 60 mg/L to 1,000 mg/L of docosahexaenoic acid, from 110 mg/L to 1,000 mg/L of arachidonic acid, from 130 mg/L to 1,000 mg/L of vitamin C, and from 1 mg/L to less than 7 mg/L of gamma tocopherol.

2. The ready-to-feed liquid infant formula according to claim 1, further comprising a carotenoid selected from the group of lutein, zeaxanthin, and combinations thereof.

3. The ready-to-feed liquid infant formula according to either one of claims 1 and 2, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

4. The ready-to-feed liquid infant formula according to either one of claims 1 and 2, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 7.5:1 to 10:1.

5. The ready-to-feed liquid infant formula according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

6. The ready-to-feed liquid infant formula according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 18:1.

7. The ready-to-feed liquid infant formula according to any one of the preceding claims, wherein the infant formula comprises from 1 mg/L to 3 mg/L of gamma tocopherol.

8. The ready-to-feed liquid infant formula according to any one of the preceding claims, wherein the infant formula comprises from 20 mg/L to 40 mg/L of RRR-alpha tocopherol.

Claims:

1. An infant formula comprising:

a protein, a carbohydrate, and a lipid;

from 7 mg/L to 100 mg/L of RRR-alpha tocopherol, from 60 mg/L to 1,000 mg/L of docosahexaenoic acid, from 110 mg/L to 1,000 mg/L of arachidonic acid, from 130 mg/L to 1,000 mg/L of vitamin C, and from 1 mg/L to less than 7 mg/L of gamma tocopherol.

2. The infant formula according to claim 1, further comprising a carotenoid selected from the group of lutein, zeaxanthin, and combinations thereof.

3. The infant formula according to either one of claims 1 and 2, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

4. The infant formula according to either one of claims 1 and 2, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 7.5:1 to 10:1.

5. The infant formula according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

6. The infant formula according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 18:1.

7. The infant formula according to any one of the preceding claims, wherein the infant formula comprises from 1 mg/L to 3 mg/L of gamma tocopherol.

8. The infant formula according to any one of the preceding claims, wherein the infant formula comprises from 20 mg/L to 40 mg/L of RRR-alpha tocopherol.

9. Use of an infant formula comprising from 7 mg/L to 100 mg/L of RRR-alpha tocopherol, from 60 mg/L to 1,000 mg/L of docosahexaenoic acid, from 110 mg/L to 1,000 mg/L of arachidonic acid, from 130 mg/L to 1,000 mg/L of vitamin C, and from 1 mg/L to less than 7

mg/L of gamma tocopherol, in the manufacture of a medicament for treating neurodegenerative disease in an infant.

10. Use according to claim 9, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

11. Use according to either one of claims 9 and 10, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

12. Use according to any one of claims 9-11, wherein the infant formula comprises from 1 mg/L to 3 mg/L of gamma tocopherol.

13. Use according to any one of claims 9-12, wherein the infant formula further comprises a carotenoid selected from the group of lutein, zeaxanthin, and combinations thereof.

14. Use according to any one of claims 9-13, wherein the infant formula, wherein the infant formula comprises from 20 mg/L to 40 mg/L of RRR-alpha tocopherol.