CLAIMS

What is claimed is:

1. A pharmaceutical formulation comprising at least about 30 % by weight of the total composition of caprylic triglyceride, and at least one matrix forming agent selected from the group consisting of glycerides, natural waxes, and combinations thereof.

2. The pharmaceutical composition of claim 1, wherein the glyceride is selected from the group consisting of glyceryl behenate, glyceral dibehenate, glyceryl trimyristate, glyceryl trilaurate, glyceryl tristearate, glyceryl monostearate, glyceryl palmitostearate, and glyceryl triacetate.

3. The pharmaceutical composition of claim 1, wherein the natural wax is selected form the group consisting of hydrogenated castor oil (HCO), carnauba wax, and rice bran wax.

4. The pharmaceutical composition of claim 1, wherein the matrix forming agent is selected from the group consisting of glyceryl dibehenate, hydrogenated castor oil (HCO), carnauba wax, rice bran wax, and combinations thereof.

5. The pharmaceutical composition of any of the preceding claims, wherein the caprylic triglyceride is present in an amount of between about 30% and about 60% by weight of the total composition.

6. The pharmaceutical composition of any of the preceding claims, wherein the matrix forming agent is present in an amount of between about 20% and about 70% by weight of the total composition.

7. The pharmaceutical composition of any of the preceding claims, wherein the caprylic triglyceride is present in an amount of between about 30% and about 60% by weight of the total composition and the matrix forming agent is present in an amount of between about 40% and about 70% by weight of the total composition.

8. The pharmaceutical composition any of the preceding claims, wherein the caprylic triglyceride is present in an amount of between about 40% and about 50% by weight of the total composition and the matrix forming agent is present in an amount of between about 50% and about 60% by weight of the total composition.

9. The pharmaceutical composition of any of the preceding claims, further comprising a dissolution enhancer.

10. The composition of claim 9, wherein the dissolution enhancer is selected from the group consisting of poly(ethylene glycol)-block-poly(propylene glycol)-block-poly(ethylene glycol) copolymer, polyethylene glycol copolymer, starch, rice starch, lecithin, polyvinylpyrrolidone (PVP), polyoxylglycerides, polyvinylpyrrolidone-vinyl acetate copolymer (PVP-VA), hydroxypropyl methylcellulose (HPMC), hyprmellose acetate succinate (HPMCAS), Low-substituted hydroxypropyl cellulose (L-HPC), sorbitan esters, polyethylene glycol, sorbitan fatty acid esters, and combinations thereof.

11. The composition of claims 9 or 10, wherein the dissolution enhancer is present in an amount of about 1% to about 20% by weight of the total composition.

12. The composition of any of claims 9-11, wherein the dissolution enhancer is poly(ethylene glycol)-block-poly(propylene glycol)-block-poly(ethylene glycol) copolymer.

13. A pharmaceutical composition of any of the preceding claims, further comprising a flow aid.

14. The pharmaceutical composition of claim 13, wherein the flow aid is selected from the group consisting of amphorous silica gel, silica aerogel, magnesium alumino metasilicates, calcium silicate, ordered mesoporous silica, micronized talc, and combinations thereof.

15. The pharmaceutical composition of claims 13 or 14, wherein the flow aid is present in an amount of 0.1% % to 5% by weight of the total composition.

16. The pharmaceutical composition of any of claims 13-15, wherein the flow aid is micronized talc.

17. A pharmaceutical composition of any of the preceding claims, further comprising a stiffening agent.

18. The pharmaceutical composition of claim 17, wherein the stiffening agent is selected from the group consisting of carnauba wax, candelilla wax, and combinations thereof.

19. The pharmaceutical composition of claims 17 or 18, wherein the stiffening agent is present in an amount of 1% to 60% by weight of the total composition.

20. The pharmaceutical composition of any of claims 17-19, wherein the stiffening agent is carnauba wax.

21. The pharmaceutical composition of any of the preceding claims, wherein the composition is comprised of discrete particles including the caprylic triglyceride and glyceride.

22. The pharmaceutical composition of claim 21, wherein the particles have an average diameter of between about 50 μm and about 350 μm.

23. The pharmaceutical composition of claims 21 or 22, wherein the particles have an average diameter of between about 100 μm and about 300 μm.

24. The pharmaceutical composition of any of claims 21-23, wherein the particles exhibit a Carr Index of flowability of less than 10%.

25. The pharmaceutical composition of any of the preceding claims, wherein when the pharmaceutical composition is subjected to dissolution testing using USP-II Sink dissolution post acid exposure methodology, at least 40% but not more than 60% of the caprylic triglyceride releases from the composition in the first 60 minutes, at least 60% but not more than 80% of the caprylic triglyceride releases from the composition in the 120 minutes, and at least 80% of the caprylic triglyceride releases from the composition in the first 240 minutes.

26. The pharmaceutical composition of claim 25, wherein when the pharmaceutical composition is subjected to dissolution testing using USP-II Sink dissolution post acid exposure methodology, at least 90% of the caprylic triglyceride releases from the composition in the first 360 minutes.

27. The composition of any of the preceding claims, wherein the purity of the caprylic triglyceride is at least 95%.

28. A method of treating a disease or disorder associated with reduced cognitive function in a subject in need thereof, the method comprising administering to the subject a pharmaceutical composition of any of the preceding claims in an amount effective to elevate ketone body concentrations in said subject to thereby treat said disease or disorder.

29. The method of claim 28, wherein the disease or disorder associated with reduced cognitive function is selected from Alzheimer's disease and Age-Associated Memory Impairment.

30. The method of claims 28 or 29, further comprising determining if the patient lacks the ApoE4 genotype.

31. The method of any of claims 28-30, wherein the composition is administered at a dose of about 0.05 g/kg/day to about 10 g/kg/day.