WHAT IS CLAIMED IS:

1. Use of ~~A nutritional composition comprising~~ 2-fucosyl-lactose in the manufacture of a medicament for ~~use in~~ enhancing the hippocampal long-term potentiation response in an individual ~~in need of higher long-term potentiation response~~, wherein the medicament is a nutritional composition.

2. The ~~nutritional composition~~ use of claim 1, wherein the individual has experienced stress early in life.

3. The ~~nutritional composition~~ use of claim 2, wherein the stress is acute psychological stress.

4. The ~~nutritional composition~~ use of any one of claims 1-3, wherein the individual has been maternally deprived.

5. The ~~nutritional composition~~ use of claim 2 or claim 4, wherein the individual is an infant.

6. The ~~nutritional composition~~ use of any one of claims 1-5, wherein ~~the~~ use of the medicament results in enhanced learning in the individual.

7. The ~~nutritional composition~~ use of any one of claims 1-6, wherein ~~the~~ use of the medicament results in enhanced memory acquisition and memory recall in the individual.

8. The ~~nutritional composition~~ use of any one of claims 1-7, wherein ~~the~~ use of the medicament results in increased brain functionality in the individual.

9. The ~~nutritional composition~~ use of any one of claims 1-8, wherein the ~~nutritional composition~~ medicament is a liquid comprising ~~and comprises~~ from 0.001 mg/mL to 20 mg/mL of 2-fucosyl-lactose.

10. The ~~nutritional composition~~ use of any one of claims 1-8, wherein the ~~nutritional composition~~ medicament is a liquid comprising ~~and comprises~~ from 0.001 mg/mL to 10 mg/mL of 2-fucosyl-lactose.

11. The ~~nutritional composition~~ use of any one of claims 1-8, wherein the ~~nutritional composition~~ medicament is a liquid ~~and comprises~~ from 0.001 mg/mL to 5 mg/mL of 2-fucosyl-lactose.

12. The ~~nutritional composition~~ use of any one of claims 1-8, wherein the ~~nutritional composition~~ medicament is a powder comprising ~~and comprises~~ from 0.0005% to 5% of 2-fucosyl-lactose by weight of the powder.

13. The ~~nutritional composition~~ use of any one of claims 1-8, wherein the ~~nutritional composition~~ medicament is a powder comprising ~~and comprises~~ from 0.01% to 1% of 2-fucosyl-lactose by weight of the powder.

14. The ~~nutritional composition~~ use of any one of claims 1-13, wherein the ~~nutritional composition~~ medicament further comprises at least one of a fat, protein, and carbohydrate.

15. The ~~nutritional composition~~ use of any one of claims 1-14, wherein the ~~nutritional composition~~ medicament is an infant formula.