CLAIMS:

1. An orally-administrable, pharmaceutical formulation comprising: a plurality of pellets, wherein:

the pellets comprise a core, a sustained release coating, and an enteric coating; and

the core comprises acamprosate calcium and a diluent.

2. The pharmaceutical formulation of Claim 1, wherein the diluent comprises Microcrystalline Cellulose (MCC) or a cellulose gel.

3. The pharmaceutical formulation of Claim 2, wherein the diluent comprises microcrystalline cellulose.

4. The pharmaceutical formulation according to any one of Claims 1-3, wherein the sustained release coating comprises a thermoplastic cellulose ether.

5. The pharmaceutical formulation of Claim 4, wherein the sustained release coating comprises ethyl cellulose standard 20.

6. The pharmaceutical formulation according to any one of Claims 1-5, wherein the enteric coating comprises an anionic copolymer based on methacrylic acid and ethyl acrylate.

7. The pharmaceutical formulation of Claim 6, wherein the enteric coating comprises an anionic copolymer based on methacrylic acid and ethyl acrylate 1:1.

8. The pharmaceutical formulation according to any one of Claims 1-7, wherein the plurality of pellets range in size from about 0.5 mm to about 3.1 mm, as determined for a maximum Bead Size for Drug Products Labeled for Sprinkle (per the current US-FDA Guidance document).

9. The pharmaceutical formulation according to any one of Claims 1-7, wherein the plurality of pellets range in size from about 0.6 mm to about 1.5 mm, as measured using a ASTM Mesh.

10. The pharmaceutical formulation according to any one of Claims 1-9, wherein the acamprosate calcium is homogeneously dispersed in the core of the pellets.

11. The pharmaceutical formulation according to any one of Claims 1-10, wherein the formulation is a sustained release formulation, characterized by a release profile wherein less than about 90% of the acamprosate calcium is released in 30 minutes at pH 6.8.

12. The pharmaceutical formulation of Claims 12, characterized by a release profile wherein less than about 50% of the acamprosate calcium is released in 120 min at pH 1.2.

13. The pharmaceutical formulation according to any one of Claims 1-10, wherein the formulation is a modified release formulation, characterized by a release profile wherein less than about 10% of the acamprosate calcium is released in 120 min at pH 1.2.

14. The pharmaceutical formulation according to any one of Claims 1-13, wherein the acamprosate calcium comprises about 5 to about 60 w/w% of the core.

15. The pharmaceutical formulation of Claim 14, wherein the acamprosate calcium comprises about 45 to about 65 w/w% of the core.

16. The pharmaceutical formulation of Claim 15, wherein the acamprosate calcium comprises about 50 to about 60 w/w% of the core.

17. The pharmaceutical formulation according to any one of Claims 1-16, wherein the plurality of pellets is contained in a sachet or capsule.

18. The pharmaceutical formulation according to Claim 17, wherein the sachet contains a unit dose of acamprosate calcium.

19. The pharmaceutical formulation according to Claim 18, wherein the unit dose is about 100 mg to about 2500 mg.

20. Use of the pharmaceutical formulation according to any one of Claims 1-19 in the manufacture of a medicament for treating a medical condition in a patient, wherein the medical condition is selected from the group consisting of age-related cognitive impairment, Mild Cognitive Impairment (MCI), dementia, Alzheimer's Disease (AD), prodromal AD, post traumatic stress disorder (PTSD), schizophrenia, bipolar disorder, amyotrophic lateral sclerosis (ALS), cancer-therapy-related cognitive impairment, drug induced or toxin induced cognitive impairment, mental retardation, Parkinson's disease (PD), autism, compulsive behavior, substance addiction, alcohol dependence, tinnitus, sleep apnea, levodopa-induced dyskinesias in Parkinson's Disease, Huntington's Disease, Cortical spreading depression,

migraine, anxiety, tardive dyskinesia, spasticity, multiple sclerosis, various types of pain, binge eating, Autism Spectrum Disorder, Pervasive Development Disorder-Not Otherwise Specified, Idiopathic Autism, Fragile X Syndrome, Asperger's Syndrome, Rhett's Syndrome, Childhood Disintegrative Disorder as referenced in Diagnostic and Statistical Manual of Mental Disorders IV, neurotransmission or cognitive disorder characterized as a glutamate-GABA imbalance, disorder characterized with disrupted or dysregulated ERK signaling pathway, and rasopathies resulting in abnormalities in brain development, learning, memory or cognition.

21. The use of Claim 20, wherein the medical condition is age-related cognitive impairment, Mild Cognitive Impairment (MCI), dementia, Alzheimer's Disease (AD), prodromal AD, post traumatic stress disorder (PTSD), schizophrenia, bipolar disorder, amyotrophic lateral sclerosis (ALS), cancer-therapy-related cognitive impairment, drug induced or toxin induced cognitive impairment, mental retardation, Parkinson's disease (PD), autism, compulsive behavior, or substance addiction.

22. The use of Claim 20, wherein the medical condition is alcohol dependence, tinnitus, sleep apnea, Parkinson's disease, levodopa-induced dyskinesias in Parkinson's Disease, Alzheimer's Disease, Huntington's Disease, Amyotrophic Lateral Sclerosis, Cortical spreading depression, migraine, schizophrenia, anxiety, tardive dyskinesia, spasticity, multiple sclerosis, various types of pain, or binge eating.

23. The use of Claim 20, wherein the medical condition is Autism Spectrum Disorder, Pervasive Development Disorder-Not Otherwise Specified, Idiopathic Autism, Fragile X Syndrome, Asperger's Syndrome, Rhett's Syndrome, or Childhood Disintegrative Disorder as referenced in Diagnostic and Statistical Manual of Mental Disorders IV.

24. The use of Claim 20, wherein the medical condition is Fragile X syndrome.

25. The use of Claim 20, wherein the medical condition is a neurotransmission or cognitive disorder characterized as a glutamate-GABA imbalance, or a disorder characterized with disrupted or dysregulated ERK signaling pathway or rasopathies resulting in abnormalities in brain development, learning, memory or cognition.

26. The use according to any one of Claims 20-25, wherein the medicament is configured for administration by sprinkling the pharmaceutical formulation onto a food or mixed into food having a pH < 5.5 prior to ingestion.

27. The use of claim 26, wherein the food is applesauce, pudding, yogurt or other pH-suitable food matrix.

28. The use according to any one of Claims 20-27, wherein the medicament is configured as a single unit dose of the acamprosate calcium to be administered 1-4 times per day.