WHAT IS CLAIMED IS:

1. A composition comprising (a) a therapeutically effective amount of calcium alpha-ketoglutarate, and (b) a controlled-release matrix comprising an hydroxypropylmethylcellulose (HPMC).

~~2. The composition of claim 1 wherein the controlled-release matrix comprises hydroxypropylmethylcellulose (HPMC).~~

~~3~~2. The composition of claim 1 wherein the ~~controlled-release matrix comprises~~ HPMC ~~with~~ has a number average molecular weight of ~~about~~ 68,000-95,000.

~~4~~3. The composition of claim 1 wherein the ~~controlled-release matrix comprises~~ HPMC ~~with~~ has a number average molecular weight of ~~about~~ 115,000-150,000.

~~5~~4. The composition of claim 1 wherein the controlled-release matrix comprises a first HPMC with number average molecular weight of ~~between about~~ 68,000-95,000 and a second HPMC with number average molecular weight of ~~about~~ 115,000-150,000.

~~6~~5. The composition of any one of claims 1-~~5~~ 4 wherein the amount of calcium alpha-ketoglutarate is from ~~about~~ 30% to ~~about~~ 65% by total weight of the composition.

~~7~~6. The composition of any one of claims 1-~~6~~ 5 comprising ~~about~~ 250 to ~~about~~ 1000 mg of calcium alpha-ketoglutarate.

~~8~~7. The composition of any one of claims 1-~~6~~ 5 comprising ~~about~~ 350 to ~~about~~ 1000 mg of calcium alpha-ketoglutarate.

~~9~~8. The composition of any one of claims 1-~~6~~ 5 comprising ~~about~~ 400 to ~~about~~ 600 mg of calcium alpha-ketoglutarate.

~~10~~9. The composition of any one of claims 1-~~6~~ 5 comprising about 525 mg of calcium alpha-ketoglutarate.

~~11~~10. The composition of any one of claims 1-~~6~~ 5 comprising at least about 10% dietary value of calcium.

~~12~~11. The composition of any one of claims 1-~~6~~ 5 comprising at least about 15% dietary value of calcium.

~~13~~12. The composition of any one of claims 1-~~12~~ 11 further comprising one or more excipients.

~~14~~13. The composition of any one of claims 1-~~13~~ 12 further comprising microcrystalline cellulose.

~~15~~14. The composition of any one of claims 1-~~14~~ 13 further comprising lactose monohydrate.

~~16~~15. The composition of any one of claims 1-~~15~~ 14 further comprising one or more lubricants.

~~17~~16. The composition of claim ~~16~~ 15 wherein the lubricant is magnesium stearate.

~~18~~17. The composition of any one of claims 1-~~17~~ 16 further comprising one or more disintegrants.

~~19~~18. The composition of claim ~~18~~ 17 wherein the disintegrant is silicon dioxide.

~~20~~19. The composition of any one of claims 1-~~19~~ 18 further comprising a sweetener.

~~21~~20. The composition of claim ~~20~~ 19 wherein the sweetener is isomalt.

~~22~~21. The composition of any one of claims 1-~~15~~ 20 further comprising wax.

~~23~~22. The composition of claim ~~22~~ 21 wherein the wax is carnauba wax and/or rice bran wax.

~~24~~23. The composition of any one of claims 1-~~23~~ 22 characterized by a release rate of the calcium alpha-ketoglutarate that is about 90% or less of a release rate of calcium alpha-ketoglutarate of a calcium alpha-ketoglutarate composition that is uncontrolled or is formulated without the controlled-release matrix.

~~25~~24. The composition of any one of claims 1-~~23~~ 22 characterized by a release rate of the calcium alpha-ketoglutarate that is about 70% or less of a release rate of calcium alpha-ketoglutarate of a calcium alpha-ketoglutarate composition that is uncontrolled or is formulated without the controlled-release matrix.

~~26~~25. The composition of any one of claims 1-~~23~~ 22 characterized by a release rate of the calcium alpha-ketoglutarate that is about 60% or less of a release rate of calcium alpha-ketoglutarate of a calcium alpha-ketoglutarate composition that is uncontrolled or is formulated without the controlled-release matrix.

~~27~~26. The composition of any one of claims 1-~~23~~ 22 characterized by a release rate of the calcium alpha-ketoglutarate that is about 50% or less of a release rate of calcium alpha-ketoglutarate of a calcium alpha-ketoglutarate composition that is uncontrolled or is formulated without the controlled-release matrix.

~~28~~27. The composition of any one of claims 1-~~23~~ 22 characterized by a ~~release rate of the~~ calcium alpha-ketoglutarate dissolution profile wherein ~~that is~~ about 30% or less of the calcium alpha-ketoglutarate is dissolved after a time between about 0.5 and about 2 hours in a

dissolution medium as measured by a paddle apparatus with a basket rotating at 75 rpm, wherein the dissolution medium is 900 mL of about 0.03 M NaCl and about 0.08 M HCl at about 37°C.

~~29~~28. The composition of any one of claims 1-~~28~~ 27 characterized by a ~~release rate of the~~ calcium alpha-ketoglutarate dissolution profile wherein that is about 75% or more of the calcium alpha-ketoglutarate is dissolved after a time between about 10 and about 11 hours in a dissolution medium as measured by a paddle apparatus with a basket rotating at 75 rpm, wherein the dissolution medium is 900 mL of about 0.03 M NaCl and about 0.08 M HCl at about 37°C.

~~30~~29. The composition of any one of claims 1-~~29~~ 28 wherein the calcium alpha-ketoglutarate is calcium alpha-ketoglutarate monohydrate.

~~31~~30. The composition of any one of claims 1-~~30~~ 29 in the form of a dosage unit.

~~32~~31. The composition of any one of claims 1-~~30~~ 29 in the form of a dosage unit configured for oral administration.

~~33~~32. The composition of any one of claims 1-~~30~~ 29 in the form of a tablet.

~~34~~33. The composition of any one of claims 1-~~30~~ 29 in the form of a capsule.

~~35~~34. A tablet comprising 525 mg of calcium alpha-ketoglutarate monohydrate~~, and~~ in a controlled-release matrix comprising an HPMC with number average molecular weight of 68,000-95,000, or an HPMC with number average molecular weight of 115,000-150,000, or a combination thereof.

35. The tablet of claim 34 wherein the controlled-release matrix comprises a first HPMC with number average molecular weight of 68,000-95,000 and a second HPMC with number average molecular weight of 115,000-150,000.