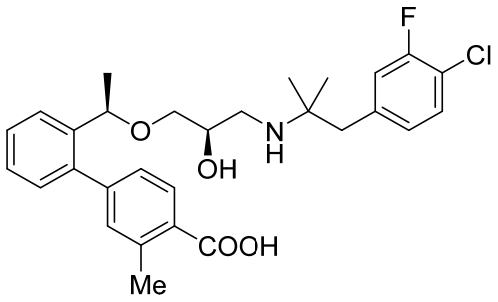
~~WHAT IS~~ CLAIM~~ED I~~S:

1. A tablet formulation comprising:

a) a compound represented by formula (I):



(I),

a solvate, a hydrate, a pharmaceutically acceptable salt, or a combination thereof; and

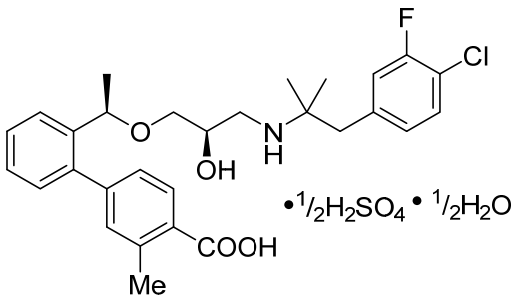
b) one or more pharmaceutically acceptable excipients selected from one or more fillers, one or more glidants, one or more disintegrants, one or more surfactants, one or more binders, one or more lubricants, and a combination thereof,

wherein the compound is present in an amount of at least about 12% by weight, on a salt-free and anhydrous basis.

2. The tablet formulation of claim **1**, in two or more dosage strengths.

3. The tablet formulation of claim **1** or **2**, wherein a ratio of the compound by weight to a total weight of one or more pharmaceutically acceptable excipients is constant across the two or more dosage strengths.

4. The tablet formulation of any one of claims **1** to **3**, wherein the compound of formula (I) is in a hemihydrate hemisulfate salt form as CLTX-305 represented by the formula:



.

5. The tablet formulation of claim **4**, wherein CLTX-305 is in an amount of about 10 milligrams (mg), about 30 mg, about 60 mg, about 120 mg, about 240 mg, about 360 mg, or about 720 mg in each tablet.

6. The tablet formulation of claim **5**, wherein the ratio of CLTX-305 to a total weight of one or more pharmaceutically acceptable excipients is from about 1:6.5 to about 1:2 by weight.

7. The tablet formulation of claim **6**, wherein the ratio is about 1:6 by weight.

8. The tablet formulation of any one of claims **4** to **7**, wherein CLTX-305 is present in an amount of from about 13% to about 35% by weight of the tablet formulation.

9. The tablet formulation of claim **8**, wherein CLTX-305 is present in an amount of about 14.3% by weight of the tablet formulation.

~~**10**. The tablet formulation of any one of claims **1** to **9**, wherein the one or more fillers are present in an amount of from about 15% to about 70%, from about 20% to about 70%, from about 30% to about 70%, from about 40% to about 70%, from about 50% to about 70%, from about 40% to about 60%, or from about 50% to about 60% by weight of the tablet formulation.~~

~~**11**~~**10**. The tablet formulation of any one of claims **1** to ~~**10**~~**9**, wherein the one or more fillers are mannitol, sorbitol, xylitol, lactitol, microcrystalline cellulose, silicified microcrystalline cellulose, cellulose, or a combination thereof.

~~**12**~~**11**. The tablet formulation of claim ~~**11**~~**10**, wherein the one or more fillers comprise mannitol and microcrystalline cellulose.

~~**13**~~**12**. The tablet formulation of claim ~~**12**~~**11**, wherein a ratio of mannitol to microcrystalline cellulose is no more than 5.

~~**14**. The tablet formulation of claim **12**, wherein mannitol and microcrystalline cellulose combined are present in an amount of about 55.2% by weight of the tablet formulation.~~

~~15~~**13**. The tablet formulation of ~~any one of claims **12** to **14**~~ claim **11** or **12**, wherein mannitol is present in an amount of about 39.5% by weight of the tablet formulation; and/or microcrystalline cellulose is present in an amount of about 15.7% by weight of the tablet formulation.

~~**16**. The tablet formulation of any one of claims **12** to **14**, wherein microcrystalline cellulose is present in an amount of about 15.7% by weight of the tablet formulation.~~

~~**17**. The tablet formulation of any one of claims **1** to **16**, wherein the one or more glidants are present in an amount of from about 0.1% to about 5%, from about 0.5% to about 5%, from about 1% to about 5%, from about 1% to about 4%, or from about 2% to about 4% by weight of the tablet formulation.~~

~~**18**~~**14**. The tablet formulation of any one of claims **1** to ~~**17**~~**13**, wherein the one or more glidants are silicon dioxide, talc, magnesium carbonate, or a combination thereof.

~~**19**~~**15**. The tablet formulation of claim ~~**18**~~**14**, wherein the one or more glidants comprise colloidal silicon dioxide.

~~**20**~~**16**. The tablet formulation of claim ~~**19**~~**15**, wherein colloidal silicon dioxide is present in an amount of about 3.0% by weight of the tablet formulation.

~~**21**. The tablet formulation of any one of claims **1** to **20**, wherein the one or more disintegrants are present in an amount of from about 1% to about 30%, from about 5% to about 30%, from about 10% to about 30%, from about 15% to about 30%, or from about 15% to about 25% by weight of the tablet formulation.~~

~~**22**. The tablet formulation of any one of claims **1** to **21**, wherein the one or more disintegrants are present intragranularly, extragranularly, or a combination thereof.~~

~~**23**~~**17**. The tablet formulation of any one of claims **1** to ~~**22**~~**16**, wherein the one or more disintegrants are croscarmellose sodium, crospovidone, sodium starch glycolate, corn starch, or a combination thereof.

~~24~~18. The tablet formulation of claim **~~23~~17**, wherein the one or more disintegrants comprise croscarmellose sodium.

~~25~~19. The tablet formulation of claim **~~24~~18**, wherein croscarmellose sodium is present intragranularly in an amount of about 10.0% by weight of the tablet formulation and/or extragranularly in an amount of about 10.0% by weight of the tablet formulation.

~~**26**. The tablet formulation of claim **24**, wherein croscarmellose sodium is present extragranularly in an amount of about 10.0% by weight of the tablet formulation.~~

~~**27**. The tablet formulation of any one of claims **1** to **26**, wherein the one or more surfactants are present in an amount of from about 0.5% to about 5%, from about 1% to about 5%, from about 1% to about 4%, or from about 1% to about 3% by weight of the tablet formulation.~~

~~28~~20. The tablet formulation of any one of claims **1** to **~~27~~19**, wherein the one or more surfactants are one or more sucrose fatty acid esters, one or more glycol fatty acid esters, one or more glycerol fatty acid esters, one or more sorbitan fatty acid esters, or a combination thereof.

~~29~~21. The tablet formulation of claim **~~28~~20**, wherein the one or more surfactants are one or more sucrose fatty acid esters comprising sucrose palmitate.

~~30~~22. The tablet formulation of claim **~~29~~21**, wherein the one or more sucrose fatty acid esters are present in an amount of about 2.0% by weight of the tablet formulation.

~~**31**. The tablet formulation of any one of claims **1** to **30**, wherein the one or more binders are present in an amount of from about 1% to about 5%, from about 2% to about 5%, or from about 3% to about 5% by weight of the tablet formulation.~~

~~32~~23. The tablet formulation of any one of claims **1** to **~~31~~22**, wherein the one or more binders are cellulosic binders selected from the group consisting of methylcellulose, carboxymethylcellulose, hydroxypropyl methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, and a combination thereof.

~~33~~24. The tablet formulation of claim ~~32~~23, wherein the one or more binders comprise hydroxypropyl methylcellulose.

~~34~~25. The tablet formulation of claim ~~33~~24, wherein hydroxypropyl methylcellulose is present in an amount of about 4.0% by weight of the tablet formulation.

~~35. The tablet formulation of any one of claims 1 to 34, wherein the one or more lubricants are present in an amount of from about 0.2% to about 5%, from about 1% to about 5%, from about 1% to about 4%, from about 1% to about 3%, or from about 1% to about 2% by weight of the tablet formulation.~~

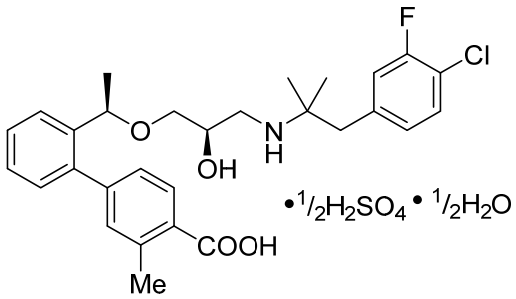
~~36~~26. The tablet formulation of any one of claims **1** to ~~35~~25, wherein the one or more lubricants are magnesium stearate, calcium stearate, zinc stearate, sodium stearyl fumarate, ethyl oleate, ethyl laureate, stearic acid, palmitic acid, sodium lauryl sulfate, or a combination thereof.

~~37~~27. The tablet formulation of claim ~~36~~26, wherein the one or more lubricants comprise magnesium stearate.

~~38~~28. The tablet formulation of claim ~~37~~27, wherein magnesium stearate is present extragranularly in an amount of about 1.5% by weight of the tablet formulation.

~~39~~29. A tablet formulation comprising:

a) CLTX-305 represented by the formula:



; and

b) seven or more pharmaceutically acceptable excipients comprising a first filler, a second filler, a glidant, a disintegrant, a surfactant, a binder, and a lubricant,

wherein CLTX-305 is present in an amount of from about 13% to about 30% by weight;

the first filler is mannitol;
the second filler is microcrystalline cellulose;
the glidant is colloidal silicon dioxide;
the disintegrant is croscarmellose sodium;
the surfactant is one or more sucrose fatty acid esters comprising sucrose palmitate;
the binder is hydroxypropyl methylcellulose;
the lubricant is magnesium stearate; and
a ratio of the compound by weight to a total weight of the seven or more pharmaceutically acceptable excipients is constant across two or more dosage strengths.

~~40~~30. The tablet formulation of claim **~~39~~29**, wherein CLTX-305 is present in an amount of from about 13% to about 15% by weight of the tablet formulation.

~~41~~31. The tablet formulation of claim **~~39 or 40~~ 29** or **30**, wherein:
CLTX-305 is present in an amount of about 14.3% by weight of the tablet formulation;
mannitol is present in an amount of about 39.5% by weight of the tablet formulation;
microcrystalline cellulose is present in an amount of about 15.7% by weight of the tablet formulation;
colloidal silicon dioxide is present in an amount of about 3.0% by weight of the tablet formulation;
croscarmellose sodium is present intragranularly in an amount of about 10.0% by weight of the tablet formulation and extragranularly in an amount of about 10.0% by weight of the tablet formulation;
the one or more sucrose fatty acid esters are present in an amount of about 2.0% by weight of the tablet formulation;
hydroxypropyl methylcellulose is present in an amount of about 4.0% by weight of the tablet formulation; and/or
magnesium stearate is present in an amount of about 1.5% by weight of the tablet formulation.

~~**42**. The tablet formulation of any one of claims **39** to **41**, wherein mannitol is present in an amount of about 39.5% by weight of the tablet formulation.~~

~~**43**. The tablet formulation of any one of claims **39** to **42**, wherein microcrystalline cellulose is present in an amount of about 15.7% by weight of the tablet formulation.~~

~~**44**. The tablet formulation of any one of claims **39** to **43**, wherein colloidal silicon dioxide is present in an amount of about 3.0% by weight of the tablet formulation.~~

~~**45**. The tablet formulation of any one of claims **39** to **44**, wherein croscarmellose sodium is present intragranularly in an amount of about 10.0% by weight of the tablet formulation.~~

~~**46**. The tablet formulation of any one of claims **39** to **44**, wherein croscarmellose sodium is present extragranularly in an amount of about 10.0% by weight of the tablet formulation.~~

~~**47**. The tablet formulation of any one of claims **39** to **46**, wherein the one or more sucrose fatty acid esters are present in an amount of about 2.0% by weight of the tablet formulation.~~

~~**48**. The tablet formulation of any one of claims **39** to **47**, wherein hydroxypropyl methylcellulose is present in an amount of about 4.0% by weight of the tablet formulation.~~

~~**49**. The tablet formulation of any one of claims **39** to **48**, wherein magnesium stearate is present in an amount of about 1.5% by weight of the tablet formulation.~~

~~50~~32. The tablet formulation of any one of claims **1** to **~~49~~31**, further comprising a coating agent; and/or the coating agent is Opadry white coating system.

~~**51**. The tablet formulation of claim **50**, the coating agent is Opadry white coating system.~~

~~**52**. The tablet formulation of any one of claims **1** to **51**, wherein the tablet has a dissolution of at least about 75%, at least about 80%, at least about 85%, at least about 90%, or~~

~~at least about 95% after about 60 minutes in a buffered solution of pH 6.8 containing sodium lauryl sulfate (SLS).~~

~~**53**. The tablet formulation of claim **52**, wherein the tablet has a maximum dissolution of about 95% after about 20, about 30, about 45, or about 60 minutes.~~

~~**54**. The tablet formulation of any one of claims **1** to **53**, wherein the tablet is stable over a period of about 6 months at a temperature of about 40°C and a relative humidity of about 75%.~~

~~**55**. The tablet formulation of any one of claims **1** to **53**, wherein the tablet is stable over a period of about 9 months at a temperature of about 25°C and a relative humidity of about 60%.~~

~~**56**~~**33**. ~~A method of treating an autosomal dominant hypocalcemia type 1 (ADH1) comprising administering to a subject in need thereof, an effective amount of~~ Use of the tablet formulation of any one of claims **1** to ~~**55**~~**32** in the manufacture of a medicament for treating an autosomal dominant hypocalcemia type 1 (ADH1), wherein the medicament is to be administered to a subject in need thereof.

~~**57**~~**34**. The ~~method~~ use of claim ~~**56**~~**33**, wherein the subject has hypocalcemia, hyperphosphatemia, and/or hypercalciuria.

~~**58**~~**35**. The ~~method~~ use of claim ~~**56**~~**33**, ~~further comprising administering~~ wherein the medicament is to be administered with an oral calcium supplement.