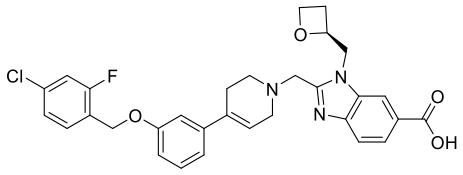
CLAIMS

1. A tris salt of Compound I, wherein Compound I is represented by the following structural formula:



Compound I ,

wherein the molar ratio between Compound I and tris(hydroxymethyl)aminomethane is 1:1.

2. The tris salt of claim 1, wherein the tris salt is crystalline.

3. The tris salt of claim 1, wherein the tris salt is in a single crystalline form.

4. The tris salt of claim 2 or 3, wherein the tris salt is a monohydrate.

5. The tris salt of claim 2 or 3, wherein the tris salt is unsolvated.

6. The tris salt of claim 4, wherein the tris salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises at least three peaks selected from 17.5°, 20.1°, 20.7°, 21.1°, and 22.6° ± 0.2 in 2θ.

7. The tris salt of claim 4, wherein the tris salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 17.5°, 20.1°, 20.7°, 21.1°, and 22.6° ± 0.2 in 2θ.

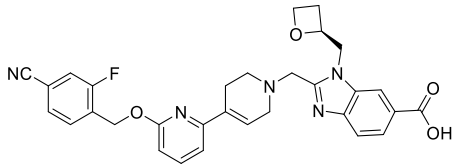
8. The tris salt of claim 4, wherein the tris salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 4.1°, 14.8°, 17.5°, 18.8°, 20.1°, 20.7°, 21.1°, and 22.6° ± 0.2 in 2θ.

9. The tris salt of claim 4, wherein the tris salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 4.1°, 8.1°, 12.8°, 14.8°, 16.3°, 17.5°, 18.8°, 19.3°, 20.1°, 20.7°, 21.1°, 22.6°, 25.1°, and 25.8° ± 0.2 in 2θ.

10. The tris salt of any one of claims 6-9, wherein the tris salt is in a single crystalline form, Form A, characterized by a differential scanning calorimeter (DSC) peak phase transition temperature of 173 ± 3°C.

11. The tris salt of any one of claims 6-10, wherein at least 90% by weight of the tris salt is in single crystalline Form A.

12. A tris salt of Compound II, wherein Compound II is represented by the following structural formula:



Compound II ,

wherein the molar ratio between Compound II and tris(hydroxymethyl)aminomethane is 1:1.

13. The tris salt of claim 12, wherein the tris salt is crystalline.

14. The tris salt of claim 13, wherein the tris salt is in a single crystalline form.

15. The tris salt of claim 13 or 14, wherein the tris salt is a monohydrate.

16. The tris salt of claim 13 or 14, wherein the tris salt is unsolvated.

17. The tris salt of claim 14 or 15, wherein the tris salt is in a single crystalline form, Form B, characterized by an X-ray powder diffraction pattern which comprises at least three peaks selected from 4.1°, 14.7°, 18.8°, 20.1°, and 23.1° ± 0.2 in 2θ.

18. The tris salt of claim 14 or 15, wherein the tris salt is in a single crystalline form, Form B, characterized by an X-ray powder diffraction pattern which comprises peaks at 4.1°, 14.7°, 18.8°, 20.1°, and 23.1° ± 0.2 in 2θ.

19. The tris salt of claim 14 or 15, wherein the tris salt is in a single crystalline form, Form B, characterized by an X-ray powder diffraction pattern which comprises peaks at 4.1°, 8.2°, 14.7°, 16.4°, 18.8°, 20.1°, 20.7°, 21.3°, and 23.1° ± 0.2 in 2θ.

20. The tris salt of claim 14 or 15, wherein the tris salt is in a single crystalline form, Form B, characterized by an X-ray powder diffraction pattern which comprises peaks at 4.1°, 8.2°, 14.7°, 16.4°, 18.8°, 19.1°, 20.1°, 20.7°, 21.3°, 23.1°, 24.1°, and 25.4° ± 0.2 in 2θ.

21. The tris salt of any one of claims 17-20, wherein the tris salt is in a single crystalline form, Form B, characterized by a differential scanning calorimeter (DSC) peak phase transition temperature of 168 ± 4°C.

22. The tris salt of any one of claims 17-21, wherein at least 90% by weight of the tris salt is in single crystalline Form B.

23. The tris salt of claim 14, wherein the tris salt is in a single crystalline form, Form G, characterized by an X-ray powder diffraction pattern which comprises at least three peaks selected from 6.2°, 7.6°, 13.1°, 13.4°, and 18.5° ± 0.2 in 2θ.

24. The tris salt of claim 14, wherein the tris salt is in a single crystalline form, Form G, characterized by an X-ray powder diffraction pattern which comprises peaks at 6.2°, 7.6°, 13.1°, 13.4°, and 18.5° ± 0.2 in 2θ.

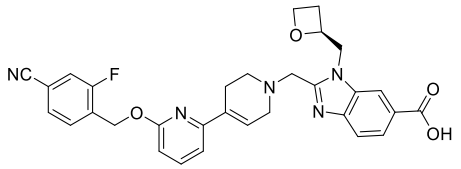
25. The tris salt of claim 14, wherein the tris salt is in a single crystalline form, Form G, characterized by an X-ray powder diffraction pattern which comprises peaks at 6.2°, 7.6°, 13.1°, 13.4°, 18.5°, 21.5°, 23.7°, and 24.1° ± 0.2 in 2θ.

26. The tris salt of claim 14, wherein the tris salt is in a single crystalline form, Form G, characterized by an X-ray powder diffraction pattern which comprises peaks at 6.2°, 7.6°, 13.1°, 13.4°, 18.0°, 18.5°, 20.8°, 21.5°, 23.7°, and 24.1° ± 0.2 in 2θ.

27. The tris salt of any one of claims 23-26, wherein the tris salt is in a single crystalline form, Form G, characterized by a differential scanning calorimeter (DSC) peak phase transition temperature of 129.5 ± 4°C.

28. The tris salt of any one of claims 23-27, wherein at least 90% by weight of the tris salt is in single crystalline Form G.

29. A citrate salt of Compound II, wherein Compound II is represented by the following structural formula:



Compound II ,

wherein the molar ratio between Compound II and citric acid is 1:1.

30. The citrate salt of claim 29, wherein the citrate salt is crystalline.

31. The citrate salt of claim 30, wherein the citrate salt is in a single crystalline form.

32. The citrate salt of claim 31, wherein the citrate salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises at least three peaks selected from 5.4°, 9.4°, 12.4°, 14.3°, and 17.8° ± 0.2 in 2θ.

33. The citrate salt of claim 31, wherein the citrate salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 5.4°, 9.4°, 12.4°, 14.3°, and 17.8° ± 0.2 in 2θ.

34. The citrate salt of claim 31, wherein the citrate salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 5.4°, 9.4°, 10.8°, 12.4°, 14.3°, 16.2°, 17.8°, 19.6°, and 24.9° ± 0.2 in 2θ.

35. The citrate salt of claim 31, wherein the citrate salt is in a single crystalline form, Form A, characterized by an X-ray powder diffraction pattern which comprises peaks at 5.4°, 9.4°, 10.8°, 12.4°, 14.3°, 16.2°, 17.8°, 18.8°, 19.6°, 23.6°, and 24.9° ± 0.2 in 2θ.

36. The citrate salt of any one of claims 32-35, wherein the citrate salt is in a single crystalline form, Form A, characterized by a differential scanning calorimeter (DSC) peak phase transition temperature of 170 ± 3°C.

37. The citrate salt of any one of claims 32-36, wherein at least 90% by weight of the citrate salt is in single crystalline Form A.

38. A pharmaceutical composition comprising the compound of any of claims 1-37, and a pharmaceutically acceptable carrier.

39. Use of a therapeutically effective amount of a salt of any of claims 1-37, or a pharmaceutical composition thereof in the manufacture of a medicament for treating a subject in need of with cardiometabolic and associated diseases, wherein the disease is T1D, T2DM, pre-diabetes, idiopathic T1D, LADA, EOD, YOAD, MODY, malnutrition-related diabetes, gestational diabetes, hyperglycemia, insulin resistance, hepatic insulin resistance, impaired glucose tolerance, diabetic neuropathy, diabetic nephropathy, kidney disease, diabetic retinopathy, adipocyte dysfunction, visceral adipose deposition, sleep apnea, obesity, eating disorders, weight gain from use of other agents, excessive sugar craving, dyslipidemia, hyperinsulinemia, NAFLD, NASH, fibrosis, cirrhosis, hepatocellular carcinoma, cardiovascular disease, atherosclerosis, coronary artery disease, peripheral vascular disease, hypertension, endothelial dysfunction, impaired vascular compliance, congestive heart failure, myocardial infarction, stroke, hemorrhagic stroke, ischemic stroke, traumatic brain injury, pulmonary hypertension, restenosis after angioplasty, intermittent claudication, post-prandial lipemia, metabolic acidosis, ketosis, arthritis, osteoporosis, Parkinson's

Disease, left ventricular hypertrophy, peripheral arterial disease, macular degeneration, cataract, glomerulosclerosis, chronic renal failure, metabolic syndrome, syndrome X, premenstrual syndrome, angina pectoris, thrombosis, atherosclerosis, transient ischemic attacks, vascular restenosis, impaired glucose metabolism, conditions of impaired fasting plasma glucose, hyperuricemia, gout, erectile dysfunction, skin and connective tissue disorders, psoriasis, foot ulcerations, ulcerative colitis, hyper apo B lipoproteinemia, Alzheimer's Disease, schizophrenia, impaired cognition, inflammatory bowel disease, short bowel syndrome Crohn's disease, colitis, irritable bowel syndrome, prevention or treatment of Polycystic Ovary Syndrome and treatment of addiction.