We claim:

1. An insulin formulation comprising insulin, dissolution agent, and zinc chelator, wherein the formulation has a pH between a pH greater than 7 and a pH about 7.6, is a clear aqueous solution, and wherein the insulin has an enhanced rate of uptake and transport relative to the insulin administered without both the dissolution agent and zinc chelator.

2. The formulation of claim 1, wherein insulin is the only active agent of the formulation.

3. The formulation of claim 1, wherein the zinc chelator is selected from the group consisting of ethylenediaminetetraacetic acid (EDTA), EGTA (ethylene-bis(oxyethylene nitro) tetraacetic acid), trisodium citrate (TSC), alginic acid, alpha lipoic acid, dimercaptosuccinic acid (DMSA), and CDTA (1,2-diaminocyclohexanetetraacetic acid).

4. The formulation of claim 3, wherein the zinc chelator is ethylenediaminetetraacetic acid (EDTA).

5. The formulation of claim 1, wherein the dissolution agent is acetic acid, ascorbic acid, citric acid, glutamic, succinic, aspartic, maleic, fumaric, adipic acid, or a salf thereof.

6. The formulation of claim 5 wherein the dissolution agent is citric acid or sodium citrate.

7. The formulation of claim 1 wherein the pH is between 7.4 and 7.5.

8. The formulation of claim 1 wherein the formulation is prepared by raising the pH of an insulin solution from about pH 4 to a pH between a pH greater than 7 and a pH about 7.6.

9. The formulation of claim 1, wherein the insulin is selected from the group consisting of human insulin, insulin analogs and combinations thereof.

10. The formulation of claim 9 wherein the insulin is recombinant human insulin.

11. An insulin formulation comprising insulin, dissolution agent, and zinc chelator, wherein the dissolution agent is a salt.

12. The formulation of claim 11, wherein the zinc chelator is selected from the group consisting of ethylenediaminetetraacetic acid (EDTA), EGTA (ethylene-bis(oxyethylene nitro) tetraacetic acid), trisodium citrate (TSC), alginic acid, alpha lipoic acid, dimercaptosuccinic acid (DMSA), and CDTA (1,2-diaminocyclohexaneetetraacetic acid).

13. The formulation of claim 11, wherein the zinc chelator is ethylenediaminetetraacetic acid (EDTA).

14. The formulation of claim 11, wherein the dissolution agent is a salt selected from the group consisting of acetate, ascorbate, citrate, glutamate, aspartate, succinate, fumarate, maleate, adipate, a Group I metal and a Group II metal.

15. The formulation of claim 14, wherein the Group II metal is magnesium.

16. The formulation of claim 14, wherein the dissolution agent is selected from the group consisting of sodium or potassium ascorbate, citrate, glutamate, aspartate, succinate, fumarate, maleate, and adipate.

17. The formulation of claim 14 wherein the dissolution agent is sodium citrate.

18. The formulation of claim 11 wherein the pH is between 7.4 and 7.5.

19. The formulation of claim 11 wherein the pH is about 4.

20. The formulation of claim 11, wherein the insulin is selected from the group consisting of human insulin, insulin analogs, and combinations thereof.

21. The formulation of claim 11 wherein the insulin is recombinant human insulin.

22. The formulation of claim 1 wherein the insulin is provided in a dry powder in a first container and at least one of the zinc chelator and dissolution agent are provided in a second container containing a diluent.

23. The formulation of claim 11 wherein the insulin is provided in a dry powder in a first container and at least one of the zinc chelator and dissolution agent are provided in a second container containing a diluent.

24. The formulation of claim 1 provided as a frozen pharmaceutically acceptable formulation for treatment of a diabetic.

25. The formulation of claim 11 provided as a frozen pharmaceutically acceptable formulation for treatment of a diabetic.

26. The formulation of claim 1 provided as a clear aqueous solution at 4°C.

27. The formulation of claim 11 provided as a clear aqueous solution at 4°C.

28. Use of insulin and an effective amount of a dissolution agent and a zinc chelator in the manufacture of a medicament for the treatment of a diabetic individual, wherein the insulin has an enhanced rate of uptake and transport as compared to insulin in combination with a zinc chelator and HCl, wherein the formulation has a pH between a pH greater than 7 and a pH about 7.6 and is a clear aqueous solution.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An insulin formulation comprising insulin, dissolution agent, and zinc chelator, wherein the formulation has a pH in a range of > 7 to 7.6, and is a clear aqueous solution, wherein the insulin has an enhanced rate of uptake and transport through epithelial cells, and wherein insulin is the only protein active agent in the formulation.

2. The formulation of claim 1, wherein the zinc chelator is selected from the group consisting of ethylenediaminetetraacetic acid (EDTA), ethylene-bis(oxyethylene amino)tetraacetic acid (EGTA), trisodium citrate (TSC), alginic acid, alpha lipoic acid, dimercaptosuccinic acid (DMSA), CDTA (1,2-diaminocyclohexanetetraacetic acid).

3. The formulation of claim 1 or 2, wherein the zinc chelator is ethylenediaminetetraacetic acid (EDTA).

4. The formulation of any one of claims 1-3, wherein the insulin is selected from the group consisting of human insulin, insulin analogs and combinations thereof.

5 The formulation of claim 4 wherein the insulin is recombinant human insulin.

6. The formulation of any one of claims 1-5 wherein the pH is in the range of from >7 to 7.5.

7. The formulation of any one of claims 1-6 wherein the formulation is prepared by raising the pH of an insulin solution from about pH 4 to a pH in the range of >7 to 7.6.

8. The formulation of any one of claims 1-7, wherein the dissolution agent is an acid selected from the group consisting of acetic acid, ascorbic acid, citric acid, glutamic, succinic, aspartic, maleic, fumaric, and adipic acid, or a salt thereof.

9. The formulation of claim 8 wherein the dissolution agent is citric acid or sodium citrate.

10. An insulin formulation according to any one of claims 1-8 wherein the dissolution agent is a salt.

11. The formulation of claim 10, wherein the dissolution agent is a salt selected from the group consisting of acetate, ascorbate, citrate, glutamate, aspartate, succinate, fumarate, maleate, and adipate and a metal Group I or group II metals.

12. The formulation of claim 11 wherein the group II metal is magnesium (Mg).

13. The formulation of claim 11, wherein the dissolution agent is selected from the group consisting of sodium or potassium ascorbate, citrate, glutamate, aspartate, succinate, fumarate, maleate, and adipate.

14. The formulation of claim 11 wherein the dissolution agent is sodium citrate.

15. A kit comprising a first container and a second container wherein the first container comprises a) insulin as a dry powder and wherein the second container comprises b) at least one of the zinc chelator and dissolution agent and a diluent, when used to prepare a formulation of claim 1 such that a) and b) are combined together.

16. The formulation of any one of claims 1-14 provided as a frozen pharmaceutically acceptable formulation for treatment of a diabetic.

17. The formulation of claim 1 provided as a clear aqueous solution at 4°C.

18. A method of treating a diabetic individual comprising injecting an effective amount of an injectable insulin formulation comprising insulin and an effective amount of a dissolution agent and a zinc chelator to enhance uptake and transport of the insulin through epithelial cells as compared to insulin in combination with a zinc chelator and HCl wherein the formulation has a pH in the range of greater than 7 to 7.6 and is a clear aqueous solution and wherein insulin is the only protein active agent in the formulation.