WHAT IS CLAIMED IS:

1. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD), wherein the hGH-XTEN fusion protein is prepared for administering to a human patient with GHD as a therapeutically effective bodyweight adjusted initial bolus dose between about 0.05 mg/kg and about 3.0 mg/kg, and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the bolus doses are administered once a month, twice a month, three times a month, or four times a month.

2. The use of claim 1, wherein the bolus doses are administered every week, every two weeks, every three weeks, or monthly.

3. The use of claim 2, wherein the bolus-doses are administered monthly.

4. The use of any one of claims 1 to 3, wherein the initial bolus dose or the subsequent bolus doses of hGH-XTEN fusion protein are between about 0.05 mg/kg and about 0.8 mg/kg or between about 0.8 mg/kg and about 1.2 mg/kg.

5. The use of any one of claims 1 to 3, wherein the bolus-doses are administered subcutaneously.

6. The use of any one of claims 1 to 3, wherein the human patient has a serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 following administration.

7. The use of claim 6, wherein the IGF-I SDS is selected from the group consisting of greater than about -2.0, greater than about -1.5, greater than about -1.0, greater than about -0.5, greater than about 0, greater than about 0.5, greater than about 1.0, and greater than about 1.5.

8. The use of claim 6, wherein the human patient exhibits said serum IGF-I SDS following administration of the bolus dose, wherein the administration is weekly, every two weeks, every three weeks, or monthly.

9. The use of any one of claims 1 to 3, wherein administration of the initial bolus dose or a subsequent bolus dose results in a normalization of IGF-I SDS in the human patient for at least about 7 days, at least about 10 days, at least about 14 days, at least about 16 days, or at least about 21 days.

10. The use of any one of claims 1 to 3, wherein the bolus doses are selected from the group consisting of about 0.05 mg/kg, about 0.1 mg/kg, about 0.2 mg/kg, about 0.4 mg/kg, about 0.8 mg/kg, about 1.0 mg/kg, about 1.2 mg/kg, about 1.4 mg/kg, about 1.6 mg/kg, about 1.8 mg/kg, about 2.0 mg/kg, about 2.2 mg/kg, about 2.4 mg/kg, about 2.6 mg/kg, about 2.7 mg/kg, about 2.8 mg/kg, and about 3.0 mg/kg.

11. The use of any one of claims 1 to 3, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

12. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD), wherein the hGH-XTEN fusion protein is prepared for administering to a human patient with GHD as a therapeutically effective bodyweight adjusted initial bolus dose of the hGH-XTEN fusion protein equivalent to less than between about 2 µg hGH/kg/day and about 12 µg hGH/kg/day dosed daily, and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein equivalent to less than between about 2 µg hGH/kg/day and about 12 µg hGH/kg/day of hGH dosed daily, wherein the bolus doses are administered once a month, twice a month, three times a month, or four times a month.

13. The use of claim 12, wherein the bolus doses are administered every week, every two weeks, every three weeks, or monthly.

14. The use of claim 13, wherein the bolus-doses are administered monthly.

15. The use of any one of claims 12 to 14, wherein the hGH/kg/day of hGH dosed daily is over about 30 days.

16. The use of any one of claims 12 to 14, wherein the bolus doses are administered subcutaneously.

17. The use of any one of claims 12 to 14, wherein the human patient has a serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 following administration.

18. The use of claim 17, wherein the IGF-I SDS is selected from the group consisting of greater than about -2.0, greater than about -1.5, greater than about -1.0, greater than about -0.5, greater than about 0, greater than about 0.5, greater than about 1.0, and greater than about 1.5.

19. The use of claim 17, wherein the human patient exhibits said serum IGF-I SDS following administration of the initial bolus dose or a subsequent bolus dose, wherein the administration is weekly, every two weeks, every three weeks, or monthly.

20. The use of any one of claims 12 to 14, wherein the bolus doses are equivalent to less than an hGH/kg/day dosage selected from the group consisting of about 2 µg hGH/kg/day, about 4 µg hGH/kg/day, about 6 µg hGH/kg/day, about 8 µg hGH/kg/day, about 10 µg hGH/kg/day, about 12 µg hGH/kg/day, about 14 µg hGH/kg/day, about 16 µg hGH/kg/day, about 18 µg hGH/kg/day, about 18.6 µg hGH/kg/day, and about 20 µg hGH/kg/day.

21. The use of any one of claims 12 to 14, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

22. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD as a therapeutically effective bodyweight adjusted initial bolus

dose between about 0.05 mg/kg and about 3.0 mg/kg, and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the initial bolus dose or a subsequent bolus dose is effective to maintain the patient's serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 for at least 7 days after administration of the bolus dose, and wherein the bolus doses are administered once a month, twice a month, three times a month, or four times a month.

23. The use of claim 22, wherein the initial bolus dose or the subsequent bolus doses are between about 0.05 mg/kg and about 0.8 mg/kg, between about 0.8 mg/kg and about 1.2 mg/kg, or between about 0.05 mg/kg and about 3.0 mg/kg.

24. The use of claim 22 or 23, wherein said initial bolus dose or a subsequent bolus dose is effective to maintain the patient's serum IGF-I SDS between about -2.0 and about 2.0 for at least 20 days after administration of the bolus dose.

25. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD as a therapeutically effective bodyweight adjusted initial bolus dose between about 0.05 mg/kg and about 3.0 mg/kg, and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the initial bolus dose or a subsequent bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least 10 days after administration of the bolus dose, and wherein the doses are administered once a month, twice a month, every two weeks, three times a month, or four times a month.

26. The use of claim 25, wherein the initial bolus dose or the subsequent bolus doses are between about 0.05 mg/kg and about 0.8 mg/kg, between about 0.8 mg/kg and about 1.2 mg/kg, or between about 0.05 mg/kg or about 3.0 mg/kg.

27. The use of claim 25 or 26, wherein said initial bolus dose or a subsequent bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least about 14 days, at least 20 days, at least about 28 days, or at least about 30 days after administration of the initial bolus dose or the subsequent bolus dose.

28. The use of claim 25 or 26, wherein said initial bolus dose or a subsequent bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least 20 days or at least about 30 days after administration of the initial bolus dose or the subsequent bolus dose.

29. The use of claim 25 or 26, wherein said initial bolus dose or a subsequent bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 100 ng/mL for a period of at least 10 days after administration of the initial bolus dose or a subsequent bolus dose.

30. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD as a therapeutically effective bodyweight adjusted initial bolus dose between about 0.05 mg/kg and about 3.0 mg/kg, and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the initial bolus dose or a subsequent bolus dose is effective in increasing the patient's IGF-I SDS by at least 0.5 or at least 1.0 above the subject's baseline IGF-I SDS in the absence of a clinically significant level of side-effects, wherein the clinically significant level of side-effects are selected from the group consisting of headache, arthralgia, myalgia, edema, nausea, and muscle fatigue after administration of the bolus dose, and wherein the doses are prepared to be administered once a month, twice a month, every two weeks, three times a month, or four times a month.

31. The use of any one of claims 22, 25, and 30, wherein said bolus doses are administered subcutaneously.

32. The use of any one of claims 22, 25, and 30, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

33. The use of any one of claims 1, 12, 22, 25, and 30, wherein the human patient has a clinically significant reduction in at least one parameter selected from serum cholesterol, serum triglycerides, and serum low-density lipoprotein (LDL) after administration of the bolus dose, wherein the administration is selected from the group consisting of once a month, twice a month, every two weeks, three times a month, or four times a month.

34. A bolus dose of an hGH-XTEN fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1, wherein the bolus dose is a therapeutically effective bodyweight adjusted bolus dose comprising between about 0.05 mg/kg and about 3.0 mg/kg of hGH-XTEN fusion protein.

35. The bolus dose of claim 34 for use in treating human growth hormone deficiency (GHD) in a subject in need.

36. The bolus dose of claims 34 or 35, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

37. The bolus dose of claim 34 or 35, which is formulated for subcutaneous administration.

38. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for increasing the efficacy of human growth hormone (hGH) therapy in a human patient with growth hormone deficiency (GHD) comprising an initial bolus dose administration and a plurality of subsequent bolus dose administrations, wherein dosage of the medicament is based on:

(a) monitoring the IGF-I standard deviation score (SDS) in a plasma or serum sample obtained from the patient during an initial dosage period of administration of an initial dose of human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1; and

(b) determining a subsequent dose of hGH-XTEN fusion protein administered over a subsequent dosage period based on the IGF-I SDS observed during the initial dosage period, wherein the subsequent dose improves the efficacy of the treatment during the subsequent dosage period.

39. A kit comprising

(i) a container which holds a pharmaceutical composition comprising a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1, and

(ii) a package insert associated with said container, wherein the package insert indicates that said composition is for the treatment of human growth hormone deficiency by administration to a human patient of an initial dose of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg and a plurality of subsequent doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the doses are administered once a month, twice a month, every two weeks, three times a month, or four times a month.

40. The use of any one of claims 1, 12, 22, 25, 30, and 38 wherein the human patient is an adult.

41. The use of claim 40, wherein the GHD is adult growth hormone deficiency (AGHD).

42. The use of claim 41, wherein AGHD is a continuation of childhood-onset GHD.

43. The use of claim 42, wherein the childhood-onset GHD is selected from Turner's Syndrome, Prader-Willi Syndrome, idiopathic short stature, and intrauterine growth retardation.

44. The use of any one of claims 1, 12, 22, 25, 30, 34, 38, and 39, wherein the hGH-XTEN fusion protein comprises an amino acid sequence having at least 95% identity to SEQ ID NO:1.

45. The use of claim 44, wherein the hGH-XTEN fusion protein comprises an amino acid sequence having at least 98% identity to SEQ ID NO:1.

46. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD), wherein the hGH-XTEN fusion protein is prepared for administering to a human patient with GHD as a therapeutically effective bodyweight adjusted initial bolus dose between about 0.05 mg/kg and about 3.0 mg/kg and as a plurality of subsequent bolus doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein bolus doses are administered once a month, twice a month, three times a month, or four times a month, wherein each subsequent bolus dose maintains the hGH-XTEN plasma concentration of at least 10 ng/ml for at least 7 days after administration and wherein serum IGF-I standard deviation score (SDS) is maintained between about -2.0 and about 2.0.

47. The use of claim 46, wherein the patient's serum IGF-I SDS is maintained between about -1.5 and about 2.0.

48. The use of any one of claims 1, 12, 22, 25, 30 and 46, wherein the initial bolus dose or a subsequent bolus dose of the hGH-XTEN administered provides an area under the curve of about 11,706 ± 3,499 ng h /mL to about 407,421 ± 124,915 ng h /mL.

CLAIMS

WHAT IS CLAIMED IS:

1. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD), wherein the hGH-XTEN fusion protein is prepared for administering to a human patient with GHD as a therapeutically effective bodyweight adjusted bolus dose between about 0.05 mg/kg and about 3.0 mg/kg.

2. The use of claim 1, wherein the bolus dose is to be administered every week, every two weeks, every three weeks, or monthly.

3. The use of claim 2, wherein the administration of the bolus dose is monthly.

4. The use of any one of claims 1 to 3, wherein the bolus dose of hGH-XTEN fusion protein is between about 0.05 mg/kg and about 0.8 mg/kg or between about 0.8 mg/kg and about 1.2 mg/kg.

5. The use of any one of claims 1 to 3, wherein the bolus dose is to be administered subcutaneously.

6. The use of any one of claims 1 to 3, wherein the human patient has a serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 following administration.

7. The use of claim 6, wherein the IGF-I SDS is selected from the group consisting of greater than about -2.0, greater than about -1.5, greater than about -1.0, greater than about -0.5, greater than about 0, greater than about 0.5, greater than about 1.0, and greater than about 1.5.

8. The use of claim 6, wherein the human patient exhibits said serum IGF-I SDS following administration of the bolus dose, wherein the administration is weekly, every two weeks, every three weeks, or monthly.

9. The use of any one of claims 1 to 3, wherein administration of the bolus dose results in a normalization of IGF-I SDS in the human patient for at least about 7 days, at least about 10 days, at least about 14 days, at least about 16 days, or at least about 21 days.

10. The use of any one of claims 1 to 3, wherein the bolus dose is selected from the group consisting of about 0.05 mg/kg, about 0.1 mg/kg, about 0.2 mg/kg, about 0.4 mg/kg, about 0.8 mg/kg, about 1.0 mg/kg, about 1.2 mg/kg, about 1.4 mg/kg, about 1.6 mg/kg, about 1.8 mg/kg, about 2.0 mg/kg, about 2.2 mg/kg, about 2.4 mg/kg, about 2.6 mg/kg, about 2.7 mg/kg, about 2.8 mg/kg, and about 3.0 mg/kg.

11. The use of any one of claims 1 to 3, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

12. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD), wherein the hGH-XTEN fusion protein is prepared for administering to a human patient with GHD as a therapeutically effective bodyweight adjusted bolus dose of the hGH-XTEN fusion protein equivalent to less than an hGH/kg/day dosage between about 2 µg hGH/kg/day and about 20 µg hGH/kg/day.

13. The use of claim 12, wherein the bolus dose is to be administered every week, every two weeks, every three weeks, or monthly.

14. The use of claim 12, wherein the administration of the bolus dose is monthly.

15. The use of any one of claims 12 to 14, wherein the hGH/kg/day dosage is over about 30 days.

16. The use of any one of claims 12 to 14, wherein the bolus dose is to be administered subcutaneously.

17. The use of any one of claims 12 to 14, wherein the human patient has a serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 following administration.

18. The use of claim 17, wherein the IGF-I SDS is selected from the group consisting of greater than about -2.0, greater than about -1.5, greater than about -1.0, greater than about -0.5, greater than about 0, greater than about 0.5, greater than about 1.0, and greater than about 1.5.

19. The use of claim 17, wherein the human patient exhibits said serum IGF-I SDS following administration of the bolus dose, wherein the administration is weekly, every two weeks, every three weeks, or monthly.

20. The use of any one of claims 12 to 14, wherein the bolus dose is equivalent to less than an hGH/kg/day dosage selected from the group consisting of about 2 µg hGH/kg/day, about 4 µg hGH/kg/day, about 6 µg hGH/kg/day, about 8 µg hGH/kg/day, about 10 µg hGH/kg/day, about 12 µg hGH/kg/day, about 14 µg hGH/kg/day, about 16 µg hGH/kg/day, about 18 µg hGH/kg/day, about 18.6 µg hGH/kg/day, and about 20 µg hGH/kg/day.

21. The use of any one of claims 12 to 14, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

22. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD as a therapeutically effective bodyweight adjusted bolus dose that is effective to maintain the patient's serum IGF-I standard deviation score (SDS) between about -2.0 and about 2.0 for at least 7 days after administration of the bolus dose.

23. The use of claim 22, wherein the bolus dose is between about 0.05 mg/kg and about 0.8 mg/kg, between about 0.8 mg/kg and about 1.2 mg/kg, or between about 0.05 mg/kg and about 3.0 mg/kg.

24. The use of claim 22 or 23, wherein said bolus dose is effective to maintain the patient's serum IGF-I SDS between about -2.0 and about 2.0 for at least 20 days after administration of the bolus dose.

25. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD

as a therapeutically effective bodyweight adjusted bolus dose that is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least 10 days after administration of the bolus dose.

26. The use of claim 25, wherein the bolus dose is between about 0.05 mg/kg and about 0.8 mg/kg, between about 0.8 mg/kg and about 1.2 mg/kg, or between about 0.05 mg/kg and about 3.0 mg/kg.

27. The use of claim 25 or 26, wherein said bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least about 14 days, at least 20 days, at least about 28 days, or at least about 30 days after administration of the bolus dose.

28. The use of claim 25 or 26, wherein said bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 10 ng/mL for a period of at least 20 days or at least about 30 days after administration of the bolus dose.

29. The use of claim 25 or 26, wherein said bolus dose is effective to maintain a plasma concentration of said fusion protein in the patient at more than about 100 ng/mL for a period of at least 10 days after administration of the bolus dose.

30. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for treating human growth hormone deficiency (GHD) in a human patient, wherein the hGH-XTEN fusion protein is prepared for administering to the patient with GHD as a therapeutically effective bodyweight adjusted bolus dose that is effective in increasing the patient's IGF-I SDS by at least 0.5 or at least 1.0 above the subject's baseline IGF-I SDS in the absence of a clinically significant level of side-effects selected from the group consisting of headache, arthralgia, myalgia, edema, nausea, and muscle fatigue after administration of the bolus dose.

31. The use of any one of claims 22, 25, and 30, wherein said bolus dose is to be administered subcutaneously.

32. The use of any one of claims 22, 25, and 30, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

33. The use of any one of claims 1, 12, 22, 25, and 30, wherein the human patient has a clinically significant reduction in at least one parameter selected from serum cholesterol, serum triglycerides, and serum low-density lipoprotein (LDL) after administration of the bolus dose, wherein the administration is selected from the group consisting of weekly, every two weeks, every three weeks, and monthly.

34. A bolus dose of an hGH-XTEN fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1, wherein the bolus dose is a therapeutically effective bodyweight adjusted bolus dose comprising between about 0.05 mg/kg and about 3.0 mg/kg of hGH-XTEN fusion protein.

35. The bolus dose of claim 34 for use in treating human growth hormone deficiency (GHD) in a subject in need.

36. The bolus dose of claims 34 or 35, wherein the hGH-XTEN fusion protein comprises the amino acid sequence of SEQ ID NO:1.

37. The bolus dose of claim 34 or 35, which is formulated for subcutaneous administration.

38. Use of a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1 in the manufacture of a medicament for increasing the efficacy of human growth hormone (hGH) therapy in a human patient with growth hormone deficiency (GHD), wherein dosage of the medicament is based on:

(a) monitoring the IGF-I standard deviation score (SDS) in a plasma or serum sample obtained from the patient during an initial dosage period of administration of an initial dose of human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1; and

(b) determining a subsequent dose of hGH-XTEN fusion protein administered over a subsequent dosage period based on the IGF-I SDS observed during the initial dosage period,

wherein the subsequent dose improves the efficacy of the treatment during the subsequent dosage period.

39. A kit comprising

(i) a container which holds a pharmaceutical composition comprising a human growth hormone-XTEN (hGH-XTEN) fusion protein comprising an amino acid sequence having at least about 90% sequence identity to SEQ ID NO:1, and

(ii) a package insert associated with said container, wherein the package insert indicates that said composition is for the treatment of growth hormone deficiency by administration of an initial dose of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg and a plurality of subsequent doses of the hGH-XTEN fusion protein between about 0.05 mg/kg and about 3.0 mg/kg, wherein the doses are administered every week, every two weeks, every three weeks, or monthly.

40. The use of any one of claims 1, 12, 22, 25, 30, and 38 wherein the human patient is an adult.

41. The use of claim 40, wherein the GHD is adult growth hormone deficiency (AGHD).

42. The use of claim 41, wherein AGHD is a continuation of childhood-onset GHD.

43. The use of claim 42, wherein the childhood-onset GHD is selected from Turner's Syndrome, Prader-Willi Syndrome, idiopathic short stature, and intrauterine growth retardation.

44. The use of any one of claims 1, 12, 22, 25, 30 and 38, wherein the hGH-XTEN fusion protein comprises an amino acid sequence having at least 95% identity to SEQ ID NO:1.

45. The use of claim 44, wherein the hGH-XTEN fusion protein comprises an amino acid sequence having at least 98% identity to SEQ ID NO:1.