Claims:

1. A glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment and/or prevention of a stomach and bowel-related disorder in a human patient, wherein the GLP-2 analogue is represented by the formula:

R^1-Z^1-His-Gly-Glu-Gly-X5-Phe-Ser-Ser-Glu-Leu-X11-Thr-Ile-Leu-Asp-Ala-Leu-Ala-Ala-Arg-Asp-Phe-Ile-Ala-Trp-Leu-Ile-Ala-Thr-Lys-Ile-Thr-Asp-Z^2-R^2

wherein:

R^1 is hydrogen, C_{1-4} alkyl (e.g. methyl), acetyl, formyl, benzoyl or trifluoroacetyl;

X5 is Ser or Thr;

X11 is Ala or Ser;

R^2 is NH_2 or OH; and

Z^1 and Z^2 are independently absent or a peptide sequence of 1-6 amino acid units of Lys;

or a pharmaceutically acceptable salt or derivative thereof; and

wherein the GLP-2 analogue is for administration to the patient once or twice weekly.

2. The glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment according to claim 1, wherein the stomach and bowel-related disorder is ulcers, digestion disorders, malabsorption syndromes, short-gut syndrome, cul-de-sac syndrome, inflammatory bowel disease, celiac sprue (for example arising from gluten induced enteropathy or celiac disease), tropical sprue, hypogammaglobulinemic sprue, enteritis, regional enteritis (Crohn's disease), ulcerative colitis, small intestine damage, or short bowel syndrome (SBS).

3. The glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment according to claim 2, wherein the stomach and bowel-related disorder is short bowel syndrome.

4. The glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment according to claim 1, wherein the stomach and bowel-related disorder is radiation enteritis, infectious or post-infectious enteritis, or small intestinal damage due to toxic or other chemotherapeutic agents or radiation treatment.

5. A glucagon-like peptide 2 (GLP-2) analogue for use in a method for increasing the longitudinal growth of the intestines in a human patient, wherein the GLP-2 analogue is represented by the formula:

R^1-Z^1-His-Gly-Glu-Gly-X5-Phe-Ser-Ser-Glu-Leu-X11-Thr-Ile-Leu-Asp-Ala-Leu-Ala-Ala-Arg-Asp-Phe-Ile-Ala-Trp-Leu-IIe-Ala-Thr-Lys-Ile-Thr-Asp-Z^2-R^2

wherein:

R^1 is hydrogen, C_{1-4} alkyl (e.g. methyl), acetyl, formyl, benzoyl or trifluoroacetyl;

X5 is Ser or Thr;

X11 is Ala or Ser;

R^2 is NH_2 or OH; and

Z^1 and Z^2 are independently absent or a peptide sequence of 1-6 amino acid units of Lys;

or a pharmaceutically acceptable salt or derivative thereof; and

wherein the GLP-2 analogue is for administration to the patient once or twice weekly.

6. The glucagon-like peptide 2 (GLP-2) analogue for use in a method according to claim 5, wherein:

(a) the intestinal is increased by at least 30% compared to the control; and or

(b) an increased of absorptive capacity after administration has stopped is obtained; and/or

(c) the GLP-2 analogue is for administration for once or twice weekly for at least 1 to 3 years; and/or

(d) wherein the human patient is a patient having SBS-intestinal failure; and/or

(e) the human patient is a patient being on the border between being a patient having SBS-intestinal insufficiency and SBS-intestinal failure.

7. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration to the patient once weekly.

8. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration to the patient twice weekly.

9. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is prepared for administration of a plurality of doses to the patient, wherein the doses are separated in time by one week, optionally wherein the doses are for administration to the patient for 1 to 3 years.

10. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration in a dose in the range between 0.5 mg and 25 mg inclusive per patient once or twice weekly, optionally between 1 mg and 20 mg inclusive per patient once or twice weekly, optionally between 1 mg and 10 mg inclusive per patient once or twice weekly, optionally between 2 mg and 7 mg inclusive per patient once or twice weekly, optionally between 5 mg and 7 mg inclusive per patient once or twice weekly, or optionally between 2 mg and 5 mg inclusive per patient once or twice weekly.

11. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration in a fixed dose of 2 mg, 5 mg, 6 mg, 7 mg, 8 mg, 9, mg, 10 mg, 11 mg, 12 mg, 13 mg, 14 mg or 15 mg, once or twice weekly.

12. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration in a fixed dose of 10 mg, once or twice weekly.

13. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of claims 1 to 10, wherein the GLP-2 analogue is for administration in a fixed dose of 2 mg, once or twice weekly.

14. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein the GLP-2 analogue is for administration by injection.

15. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims, wherein:

(a) the dose of the GLP-2 analogue is divided into two or three doses that are for administration at spatially separated injection sites; and/or

(b) the GLP-2 analogue is for administration by intravenous injection, subcutaneous injection or intramuscular injection; and/or

(c) the GLP-2 analogue is for administration that causes formation of a subcutaneous depot from which the GLP-2 analogue, or metabolites thereof, are released; and/or

(d) the GLP-2 analogue is for administration using an injection pen.

16. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the

preceding claims, wherein X5 is Thr and/or X11 is Ala.

17. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of the preceding claims which is:

ZP1848	H-HGEGTFSSELATILDALAARDFIAWLIATKITDKKKKKK-NH_2,
ZP2949	H-HGEGTFSSELATILDALAARDFIAWLIATKITDKKK-OH,
ZP2711	H-HGEGTFSSELATILDALAARDFIAWLIATKITDKK-OH,
ZP2469	H-HGEGTFSSELATILDALAARDFIAWLIATKITDK-OH,
ZP1857	H-HGEGTFSSELATILDALAARDFIAWLIATKITD-NH_2, or
ZP2530	H-HGEGTFSSELATILDALAARDFIAWLIATKITD-OH.

18. The glucagon-like peptide 2 (GLP-2) analogue for use according to claim 17 which is:

1848 H-HGEGTFSSELATILDALAARDFIAWLIATKITDKKKKKK-NH_2

19. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of claims 1 to 15, wherein X5 is Ser and/or X11 is Ser.

20. The glucagon-like peptide 2 (GLP-2) analogue for use according to any one of claims 1 to 15, or 19 which is:

ZP1846	H-HGEGSFSSELSTILDALAARDFIAWLIATKITDKKKKKK-NH_2,
ZP1855	H-HGEGSFSSELSTILDALAARDFIAWLIATKITD-NH_2, or
ZP2242	H-HGEGSFSSELSTILDALAARDFIAWLIATKITDK-OH.

21. The glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment according to claim 20 which is:

1846 H-HGEGSFSSELSTILDALAARDFIAWLIATKITDKKKKKK-NH_2

22. A glucagon-like peptide 2 (GLP-2) analogue for use in a method of treating short bowel syndrome (SBS) in a human subject receiving a parenteral support (PS) regimen, the method comprising:

(i) preparing a GLP-2 analogue represented by the formula:

R^1-Z^1-His-Gly-Glu-Gly-X5-Phe-Ser-Ser-Glu-Leu-X11-Thr-Ile-Leu-Asp-Ala-Leu-Ala-Ala-Arg-Asp-Phe-Ile-Ala-Trp-Leu-IIe-Ala-Thr-Lys-Ile-Thr-Asp-Z^2-R^2

wherein:

R^1 is hydrogen, C_{1-4} alkyl (e.g. methyl), acetyl, formyl, benzoyl or trifluoroacetyl;

X5 is Ser or Thr;

X11 is Ala or Ser;

R^2 is NH_2 or OH; and

Z^1 and Z^2 are independently absent or a peptide sequence of 1-6 amino acid units of Lys;

or a pharmaceutically acceptable salt or derivative thereof; for administration, and

wherein the GLP-2 analogue is for administration once or twice weekly for a time sufficient to lengthen and improve the function of the small intestine of the subject;

(ii) following step (i), reducing a frequency or volume of the parenteral support (PS) regimen in response to improved function of the small intestine; and

(iii) optionally repeating steps (i) and (ii) in response to the subject demonstrating improved function over time as a result of further longitudinal growth of the small intestine.

23. The glucagon-like peptide 2 (GLP-2) analogue for use in a method according to claim 22, wherein treatment is for administratrion to the subject for 18 to 150 weeks, for 18 to 100 weeks, or for 18 to 52 weeks.

24. The glucagon-like peptide 2 (GLP-2) analogue for use in a method according to claim 22 or 23, wherein the method comprises assessing an initial PS volume within a first few days of GLP-2 therapy, followed by a weekly assessment during the first month of GLP-2 therapy, a monthly assessment over the next 1-3 months of GLP-2 therapy, and/or an assessment every 3-6 months until the of GLP-2 therapy is concluded.

25. The glucagon-like peptide 2 (GLP-2) analogue for use in a method according to any one of claims 22 to 24, wherein in the above method, step (ii) comprises the steps of: (a) determining the volume of PS required by the subject at that point in the treatment, (b) comparing it to a baseline PS volume determined at the start of GLP-2 therapy and (c) reducing the frequency or volume of the PS where the subject demonstrates improved function of the small intestine.

26. A method for determining adjustment of a parenteral support (PS) volume for a human subject receiving treatment with a GLP-2 analogue for short bowel syndrome (SBS) in conjunction with an amount or volume of parenteral support each week, the method comprising:

(i) preparing a GLP-2 analogue for administration for a time sufficient to grow and/or improve the function of the small intestine of the subject;

(ii) following step (i), reducing a frequency or volume of the parenteral support (PS) regimen in response to improved function of the small intestine; and

(iii) optionally repeating steps (i) and (ii) in response to the subject demonstrating improved function over time as a result of further growth of the small intestine;

wherein in the above method, step (ii) comprises the steps of:

(a) determining the volume of PS required by the subject at that point in the treatment;

(b) measuring a current urine volume produced by the subject and comparing the current urine volume to a baseline urine volume to determine an absolute increase in urine production per day; and

(c) reducing the frequency and/or volume of the PS where the subject demonstrates improved function of the small intestine as indicated by an absolute increase in urine production per day;

wherein the reduced weekly PS volume for the subject equals the current weekly PS volume minus 7 times the absolute increase in daily urine volume from baseline.

27. The method of claim 26, wherein the calculating step is carried out if the daily urine volume is at least 10% higher than baseline urine volume.

28. This method of claim 26 or claim 27 further comprising the step of determining the current weekly PS volume for use in the calculation of the new PS volume using an algorithm.

29. The method according to any one of claims 26 to 28, wherein the GLP-2 analogue represented by the formula:

R^1-Z^1-His-Gly-Glu-Gly-X5-Phe-Ser-Ser-Glu-Leu-X11-Thr-Ile-Leu-Asp-Ala-Leu-Ala-Ala-Arg-Asp-Phe-Ile-Ala-Trp-Leu-IIe-Ala-Thr-Lys-Ile-Thr-Asp-Z^2-R^2

wherein:
R^1 is hydrogen, C_{1-4} alkyl (e.g. methyl), acetyl, formyl, benzoyl or trifluoroacetyl;
X5 is Ser or Thr;
X11 is Ala or Ser;
R^2 is NH_2 or OH; and
Z^1 and Z^2 are independently absent or a peptide sequence of 1-6 amino acid units of Lys;
or a pharmaceutically acceptable salt or derivative thereof.

30. The method according to any one of claims 26 to 29, wherein:
(a) the the GLP-2 analogue is for administration to the patient once or twice weekly; and/or
(b) the =PS volume is calculated for administration to the subject; and/or
(c) an initial step of determining the baseline volume and/or determining the daily urine volume of the subject; and/or
(d) repeating the calculating step using the algorithm at one or more points during the course of the GLP-2 therapy received by the subject and/or
(e) determining a baseline daily urine volume at the start of GLP-2 therapy and calculating the new PS volume within 2, 3, 4, 5, 6 or 7 days after start of the GLP-2 therapy; and/or
(f) determining a baseline daily urine volume at the start of GLP-2 therapy and calculating the new PS volume 1, 2, 3, 4, 5, 6 or 7 weeks after start of the GLP-2 therapy; and/or
(g) the risk of adverse effect of a to high PS volume is reduced, optionally wherein the adverse effect is fluid overload.

31. A glucagon-like peptide 2 (GLP-2) analogue for use in a method for the treatment and/or prevention of a patient having SBS-intestinal insufficiency (SBS-II), wherein the treatment prevents or delays the development of SBS-intestinal failure (SBS-IF), wherein the GLP-2 analogue is represented by the formula:

R^1-Z^1-His-Gly-Glu-Gly-X5-Phe-Ser-Ser-Glu-Leu-X11-Thr-Ile-Leu-Asp-Ala-Leu-Ala-

Ala-Arg-Asp-Phe-Ile-Ala-Trp-Leu-IIe-Ala-Thr-Lys-Ile-Thr-Asp-Z^2-R^2

wherein:

R^1 is hydrogen, C_{1-4} alkyl (e.g. methyl), acetyl, formyl, benzoyl or trifluoroacetyl;

X5 is Ser or Thr;

X11 is Ala or Ser;

R^2 is NH_2 or OH; and

Z^1 and Z^2 are independently absent or a peptide sequence of 1-6 amino acid units of Lys;

or a pharmaceutically acceptable salt or derivative thereof; and

wherein the GLP-2 analogue is for administration to the patient once or twice weekly and/or according to any of the other treatment regimes described herein.

32. The glucagon-like peptide 2 (GLP-2) analogue for use according to claim 31, wherein the GLP-2 analogue is for administration to the patient once or twice weekly.