49. The chimeric peptide sequence or peptide sequence of claim 48, wherein the amino acid deletions are at the N- or C-terminus, or internal.

50. The chimeric peptide sequence or peptide sequence of claim 48, wherein the amino acid substitution, or deletion is at any of amino acid positions 8-20 of FGF19 (AGPHVHYGWGDPI).

51. The chimeric peptide sequence or peptide sequence of any of claims 1 to 3 or 6, wherein the peptide sequence comprises one or more L-amino acids, D-amino acids, non-naturally occurring amino acids, or amino acid mimetic, derivative or analogue.

52. A composition, comprising the chimeric peptide sequence or peptide sequence of any of claims 1 to 51.

53. A pharmaceutical composition, comprising the chimeric peptide sequence or peptide sequence of any of claims 1 to 51.

54. A pharmaceutical composition, comprising the chimeric peptide sequence or peptide sequence of any of claims 1 to 51, and a glucose lowering agent.

55. The chimeric peptide sequence or peptide sequence of any of claims 1 to 51, wherein the peptide sequence is isolated or purified.

56. A nucleic acid molecule encoding the chimeric peptide sequence or peptide sequence of any of claims 1 to 51.

57. The nucleic acid molecule of claim 56, further comprising an expression control element in operable linkage that confers expression of the nucleic acid molecule encoding the peptide in vitro, in a cell or in vivo.

58. A vector comprising the nucleic acid molecule of claims 56 or 57.

59. The vector of claim 58, wherein the vector comprises a viral vector.

60. A transformed or host cell that expresses the chimeric peptide sequence or peptide sequence of any of claims 1 to 51.

61. Use of ~~A method of treating a subject having, or at risk of having, a disease or disorder treatable by the~~a chimeric peptide sequence or peptide sequence of any of claims 1 to 51~~,~~

~~comprising administering the chimeric peptide sequence or peptide sequence to a subject in an amount effective for treating the disorder~~ in the manufacture of a medicament for treating a subject having, or at risk of having, a disease or disorder treatable by the chimeric peptide sequence or peptide sequence.

62. The ~~method~~ use of claim 61, wherein the disease or disorder comprises a hyperglycemic condition, insulin resistance, hyperinsulinemia, glucose intolerance or metabolic syndrome.

63. The ~~method~~ use of claim 62, wherein the hyperglycemic condition comprises diabetes.

64. The ~~method~~ use of claim 62, wherein the hyperglycemic condition comprises insulin-dependent (type I) diabetes, type II diabetes, or gestational diabetes.

65. The ~~method~~ use of claim 61, wherein the disorder comprises obesity or an undesirable body mass.

66. Use of a~~A method of improving glucose metabolism in a subject in need thereof, comprising administering the~~ chimeric peptide sequence or peptide sequence of any of claims 1 to 51 in the manufacture of a medicament for improving glucose metabolism in a subject in need thereof~~to a subject in an amount effective to improve glucose metabolism in the subject~~.

67. The ~~method~~ use of claim 63, wherein the subject has a fasting plasma glucose level greater than 100 mg/dl or has a hemoglobin A1c (HbA1c) level above 6%.

68. The ~~method~~ use of claims 63 or 67, wherein the ~~method~~ medicament results in reduced glucose levels, increased insulin sensitivity, reduced insulin resistance, reduced glucagon, an improvement in glucose tolerance, or glucose metabolism or homeostasis, improved pancreatic function, a reduced triglyceride, cholesterol, IDL, LDL or VLDL levels, a decrease in blood pressure, a decrease in intimal thickening of the blood vessel, or a decrease in body mass or weight gain.

69. An *in vitro* method for identifying a peptide sequence having glucose lowering activity without substantial hepatocellular carcinoma (HCC) activity, comprising:
a) providing a candidate peptide sequence;
~~b) administering the candidate peptide sequence to a test animal;~~
~~c~~b) measuring glucose levels in a sample obtained of ~~the~~ an animal after administration of the candidate peptide sequence, to determine if the candidate peptide sequence reduces glucose levels; and
~~d~~c) analyzing the candidate peptide sequence for induction of HCC in the animal, or expression of a marker correlating with HCC activity, wherein a candidate peptide having glucose lowering activity and not substantial HCC activity thereby identifies the

candidate peptide sequence as a peptide sequence having glucose lowering activity without substantial hepatocellular carcinoma (HCC) activity.

70. The method of claim 69, wherein the test animal is a db/db mouse.

71. The method of claim 69, further comprising assessing a hepatic tissue sample obtained from the test animal to determine whether the candidate peptide sequence exhibits evidence of inducing HCC.

72. The method of claim 69, wherein the marker correlating with HCC activity comprises lipid profile, and wherein less lipid increasing activity compared to FGF19 indicates the peptide does not have substantial HCC activity.

73. The method of claim 69, wherein the marker correlating with HCC activity comprises aldo-keto reductase gene expression, and wherein up-regulating or increasing aldo-keto reductase gene expression compared to FGF19 indicates that the peptide does not have substantial HCC activity.

74. The method of claim 69, wherein the marker indicative of HCC activity comprises Slc1a2 gene expression, and wherein down-regulating or decreasing Slc1a2 gene expression compared to FGF21 indicates that the peptide does not have substantial HCC activity.