CLAIMS

What is claimed is:

1. A soy protein hydrolysate composition, the composition comprising a mixture of polypeptides enriched in a 47 kDa fragment, wherein between about 10% and about 66% of the polypeptides by weight are the 47 kDa fragment.

2. The composition of claim 1, wherein the composition comprises at least one oligopeptide selected from the group consisting of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and SEQ ID NO:8.

~~3. A protein fraction comprising an enriched hydrophobic β-conglycinin core region.~~

43. A food product comprising the soy protein hydrolysate composition of claim 1.

54. The food product of claim ~~4~~ 3 selected from the group consisting of cheese, emulsified meats, whipped food products, food bars, surimi products, extruded food products, beverages, whole muscle food products, yogurt, puddings and combinations thereof.

65. A process for making a protein fraction comprising:

   a. preparing a soy protein slurry using soy flour or soy concentrate derived from the isoelectric precipitation at pH4.5, and

   b. hydrolyzing the soy protein slurry with an enzyme that cleaves proteins at the C-terminus of glutamic acid and aspartic acid to obtain a protein fraction.

76. A process to produce a hydrophobic β-conglycinin core region enriched protein product wherein the hydrophilic extension region of the α' and α subunits of β-conglycinin are selectively hydrolyzed from β-conglycinin by hydrolyzing the β-conglycinin with ~~an enzyme~~ a serine protease from *Bacillus licheniformis* that cleaves proteins at the C-terminus of glutamic acid and aspartic acid to yield a hydrophobic β-conglycinin core region enriched protein product.

~~8. The process of claim 7 wherein the enzyme is a protease.~~

~~9. The process of claim 8 wherein the enzyme is a serine protease.~~

~~10. The process of claim 9 wherein the enzyme is serine protease from *Bacillus lichenformis*.~~

~~11~~7. A process for preparing a soy protein hydrolysate composition, the process comprising:

a. contacting a soy protein material with an endopeptidase that cleaves the protein material on the carboxyl terminal side of glutamic acid or aspartic acid into a mixture of polypeptides enriched in a 47 kDa fragment, the mixture of polypeptides comprising the protein hydrolysate composition, wherein between about 10% and about 66% of the polypeptides by weight are the 47 kDa fragment.

~~12~~8. The process of claim ~~11~~7, wherein the endopeptidase is a serine protease.

~~13~~9. The process of claim ~~12~~8, wherein the serine protease is from *Bacillus licheniformis*.

~~14~~10. A food product, the food product comprising a protein hydrolysate composition including a mixture of polypeptides enriched in a 47 kDa fragment, wherein between about 10% and about 66% of the polypeptides by weight are the 47 kDa fragment.

~~15~~11. The food product of claim ~~14~~10, wherein the food product is selected from the group consisting of cheese, surimi products, emulsified meats, whipped food products, food bars, extruded food products, beverages, whole muscle food products, yogurt, puddings and combinations thereof.