CLAIMS

~~What is claimed is:~~

~~1. A pharmaceutical composition suitable for diagnostic in vivo use comprising a pharmaceutically acceptable salt of a ShK polypeptide having the sequence Arg-Ser-Cys-Ile-Asp-Thr-Ile-Pro-Lys-Ser-Arg-Cys-Thr-Ala-Phe-Gln-Cys-Lys-His-Ser-Xaa-Lys-Tyr-Arg-Leu-Ser-Phe-Cys-Arg-Lys-Thr-Cys-Gly-Thr-Cys (SEQ ID NO:1) wherein~~

~~the ShK polypeptide is attached to a detectable label and an organic or inorganic chemical entity that has an anionic charge,~~

~~the C-terminus of the ShK polypeptide is an acid or an amide; and~~

~~Xaa is selected from the group consisting of Met and Nle.~~

~~2. The composition of claim 1 wherein said detectable label is a chelate of Indium-111 (In^{111}).~~

~~3. The composition of claim 2 wherein said detectable label is a 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA)-chelate of Indium-111 (In^{111}).~~

~~4. The composition of claim 1 wherein said detectable label is a chelate of gadolinium (Gd).~~

~~5. The composition of claim 4 wherein said detectable label is a DOTA-chelate of gadolinium (Gd).~~

~~6~~1. A pharmaceutical composition suitable for diagnostic *in vivo* use comprising a pharmaceutically acceptable salt of a ShK polypeptide having the sequence Tyr-AEEA-Arg-Ser-Cys-Ile-Asp-Thr-Ile-Pro-Lys-Ser-Arg-Cys-Thr-Ala-Phe-Gln-Cys-Lys-His-Ser-Met-Lys-Tyr-Arg-Leu-Ser-Phe-Cys-Arg-Lys-Thr-Cys-Gly-Thr-Cys-NH_2 (ShK-198), wherein the Shk polypeptide is attached at the amino terminus to a detectable label comprising either 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA)-chelate of Indium-111 (In^{111}) or DOTA-chelate of gadolinium (Gd) ~~at the amino terminus~~.

~~7. The composition of claim 6 wherein the detectable label is a 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA)-chelate of Indium-111 (In^{111}).~~

~~8~~2. The pharmaceutical composition of ~~any one of~~ claim~~s~~ 1~~-7~~ formulated for long-term storage.

~~9~~3. The pharmaceutical composition of claim ~~8~~ 2 wherein the composition is contained in a sterile glass vial and is instructed to be stored at -70°C.

~~10~~4. A unit of manufacture for pharmaceutical use comprising at least one glass vial prepared under sterile conditions that contains a pharmaceutical composition of ~~any one of~~ claim~~s~~ 2~~1-7~~, wherein the pharmaceutical composition within the glass vial is stable for at least six months at -70°C, and further comprising instructions for diluting and preparing the pharmaceutical composition for administration to a human.

~~11~~5. A unit of manufacture for pharmaceutical use comprising at least one sterile syringe containing a pharmaceutical composition of ~~any one of~~ claim~~s~~ 1~~-7~~, wherein the unit of manufacture further comprises instructions for administering the pharmaceutical composition to a human.