CLAIMS:

1. An imaging agent composition comprising :

an isolated polypeptide comprising SEQ. ID No 1, SEQ. ID No 2, or a conservative variant thereof, conjugated with a ^{99m}Tc via a diaminedioxime chelator; wherein the isolated polypeptide binds specifically to HER2, or a variant thereof.

2. An imaging agent composition comprising :

an isolated polypeptide comprising SEQ. ID No 1, SEQ. ID No 2, or a conservative variant thereof, conjugated with ^{67}Ga or ^{68}Ga via a NOTA chelator; wherein the isolated polypeptide binds specifically to HER2, or a variant thereof.

3. An imaging agent composition comprising :

an isolated polypeptide comprising SEQ. ID No 1, SEQ. ID No 2, or a conservative variant thereof, conjugated with ^{18}F via a linker; wherein the linker comprises a group derived from an aminoxy group, an azido group, or an alkyne group; and wherein the isolated polypeptide binds specifically to HER2, or a variant thereof.

4. The composition of claim 1, wherein the diaminedioxime chelator comprises Pn216, cPn216, Pn44, or derivatives thereof.

5. The composition of claim 3, wherein the ^{18}F is attached to the isolated polypeptide via the aminoxy linker at (the) N-terminus of the isolated polypeptide.

6. The composition of claim 4, wherein the ^{99m}Tc is conjugated to the isolated polypeptide via the cPn216 chelator at (the) N-terminus of the isolated polypeptide.

7. ~~A method of imaging at least a portion of a subject comprising:~~

~~administering the~~ The composition of claim 1 ~~to the subject, and~~ for use in imaging ~~the~~ at least a portion of a subject with a diagnostic device.

8. The ~~method~~ composition of claim 7, ~~further comprising the steps of:~~

~~monitoring delivery of~~ wherein the composition ~~of claim 1 to the subject; and~~ is to be used for

diagnosing the subject with a HER2-associated disease condition.

9. ~~A method of imaging at least a portion of a subject comprising:~~

~~administering t~~The composition of claim 2 for use in imaging at least a portion of a ~~to the~~ subject~~, and~~

~~imaging the subject~~ with a diagnostic device.

10. The method of claim 9, ~~further comprising the steps of:~~

~~monitoring delivery of~~ wherein the composition ~~of claim 2 to the subject; and~~ is to be used for

diagnosing the subject with a HER2-associated disease condition.

11. ~~A method of imaging at least a portion of a subject comprising:~~

~~administering t~~The composition of claim 3 for use in imaging at least a portion of ~~to the~~ a subject~~, and~~

~~imaging the subject~~ with a diagnostic device.

12. The ~~method~~ composition of claim ~~1~~9, ~~further comprising the steps of:~~

~~monitoring delivery of~~ wherein the composition ~~of claim 2 to the subject; and~~

is to be used for diagnosing the subject with a HER2-associated disease condition.

13. The ~~method~~ composition of claim 12, wherein the HER2-associated disease condition is breast cancer.

14. The method of claim 11, wherein the diagnostic device employs an imaging method selected from the group consisting of MRI, PET, SPECT, radioimaging, and combinations thereof.

15. A method for preparing a chelator conjugated polypeptide composition comprising:

(i) providing an isolated polypeptide comprising SEQ. ID No 1 or SEQ. ID No 2, or a conservative variant thereof;

(ii) reacting a diaminedioxime chelator with the polypeptide to form the chelator conjugated polypeptide.