WHAT IS CLAIMED IS:

1. A method of determining the presence of a STEAP-1 protein in a biological sample that has been obtained from a patient suspected of having metastatic prostate cancer, suspected of containing said STEAP-1 protein, said method comprising exposing said biological sample to a ^{89}Zirconium-labeled anti-STEAP-1 antibody and determining binding of said ^{89}Zirconium-labeled anti-STEAP-1 antibody to said protein in said biological sample, wherein binding of said ^{89}Zirconium-labeled anti-STEAP-1 antibody to said protein is indicative of the presence of said STEAP-1 protein in said biological sample, wherein the method is conducted on a sample that has been obtained from a patient suspected of having metastatic prostate cancer with metastasis to the bones, and wherein
    (a) the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises (a) a heavy chain variable domain comprising (i) complementary determining region (CDR)-H1 comprising GYSITSDYAWN, (ii) CDR-H2 comprising GYISNSGSTSYNPSLKS, and (iii) CDR-H3 comprising ERNYDYDDYYYAMDY; and (b) a light chain variable domain comprising (i) CDR-L1 comprising KSSQSLLYRSNQKNYLA, (ii) CDR-L2 comprising WASTRES, and (iii) CDR-L3 comprising QQYYNYPRT, and
    (b) the ^{89}Zirconium-labeled anti-STEAP-1 antibody is a ^{89}Zirconium-desferrioxamine (Df) anti-STEAP-1 antibody.

2. The method of claim 1, which is an immuno-PET imaging method.

3. The method of claims 1-2, wherein the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises ^{89}Zirconium conjugated through an amino group in a lysine side chain anti-STEAP1 antibody.

4. The method of claims 1-3, which is conducted on a sample that has been obtained from a patient suspected of having a prostate, lung, colon, bladder, ovarian cell or Ewing's sarcoma cell proliferation disorder.

5. The method of claims 1-4, wherein the patient is human.

6. The method of claims 1-5, wherein the ^{89}Zirconium-labeled anti-STEAP-1 antibody is 100 μCi ^{89}Zr-anti-STEAP1 antibody.

7. The method of claims 1-6, wherein the antibody that binds to STEAP-1 comprises a heavy chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:9 or 10 and a light chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:6.

WHAT IS CLAIMED IS:

1. A method of determining the presence of a STEAP-1 protein in a biological sample suspected of containing said STEAP-1 protein, said method comprising exposing said biological sample to a ^{89}Zirconium-labeled anti-STEAP-1 antibody and determining binding of said ^{89}Zirconium-labeled anti-STEAP-1 antibody to said protein in said biological sample, wherein binding of said ^{89}Zirconium-labeled anti-STEAP-1 antibody to said protein is indicative of the presence of said STEAP-1 protein in said biological sample, and wherein
    (a) the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises (a) a heavy chain variable domain comprising (i) complementary determining region (CDR)-H1 comprising GYSITSDYAWN, (ii) CDR-H2 comprising GYISNSGSTSYNPSLKS, and (iii) CDR-H3 comprising ERNYDYDDYYYAMDY; and (b) a light chain variable domain comprising (i) CDR-L1 comprising KSSQSLLYRSNQKNYLA, (ii) CDR-L2 comprising WASTRES, and (iii) CDR-L3 comprising QQYYNYPRT, and
    (b) the ^{89}Zirconium-labeled anti-STEAP-1 antibody is a ^{89}Zirconium-desferrioxamine (Df) anti-STEAP-1 antibody.

2. The method of claim 1, which is an immuno-PET imaging method.

3. The method of claims 1-2, wherein the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises ^{89}Zirconium conjugated through an amino group in a lysine side chain anti-STEAP1 antibody.

4. The method of claims 1-3, which is conducted on a sample that has been obtained from a *patient suspected of having a prostate, lung, colon, bladder, ovarian cell or Ewing's sarcoma cell* proliferation disorder.

5. The method of claims 1-4, wherein the patient is human.

6. The method of claims 1-5, wherein the ^{89}Zirconium-labeled anti-STEAP-1 antibody is 100 µCi ^{89}Zr-anti-STEAP1 antibody.

7. The method of claims 1-6, wherein the antibody that binds to STEAP-1 comprises a heavy chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:9 or 10 and a light chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:6.

8. A composition comprising a ^{89}Zirconium-labeled anti-STEAP-1 antibody, wherein
   (a) the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises (a) a heavy chain variable domain comprising (i) complementary determining region (CDR)-H1 comprising GYSITSDYAWN, (ii) CDR-H2 comprising GYISNSGSTSYNPSLKS, and (iii) CDR-H3 comprising ERNYDYDDYYYAMDY; and (b) a light chain variable domain comprising (i) CDR-L1 comprising KSSQSLLYRSNQKNYLA, (ii) CDR-L2 comprising WASTRES, and (iii) CDR-L3 comprising QQYYNYPRT, and
   (b) the ^{89}Zirconium-labeled anti-STEAP-1 antibody is a ^{89}Zirconium-desferrioxamine (Df) anti-STEAP-1 antibody.

9. The composition of claim 8, wherein the ^{89}Zirconium-labeled anti-STEAP-1 antibody comprises ^{89}Zirconium conjugated through an amino group in a lysine side chain anti-STEAP1 antibody.

10. The composition of claim 8 or 9, wherein the antibody that binds to STEAP-1 comprises a heavy chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:9 or 10 and a light chain variable domain having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:6.