CLAIMS

1. A conjugate comprising a tissue factor conjugated to an antibody, wherein the antibody specifically binds an extracellular domain epitope of a mammalian plasmalemma vesicle associated protein (PLVAP), wherein the epitope is selected from PPAGIPVAPSSG or LAIRNSALDTCIKTKSQPMMPVSRPM.

2. The conjugate of Claim 1, wherein the tissue factor has coagulating activity and comprises an amino acid sequence at least 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 96, 97, 98, 99%, or more identical to SEQ ID NO: 1; more preferably at least 80, 85, 90, 95, 96, 97, 98, 99%, or more identical to SEQ ID NO: 1; still more preferably at least 95, 96, 97, 98, 99%, or more identical to SEQ ID NO: 1.

3. A conjugate comprising a tissue factor with an amino acid sequence at least 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 96, 97, 98, 99%, or more identical to SEQ ID NO: 1, wherein the tissue factor has coagulating activity, conjugated by a peptide bond to an antibody, wherein the antibody specifically binds an epitope in an extracellular domain of a human plasmalemma vesicle associated protein (PLVAP), wherein the epitope is selected from PPAGIPVAPSSG or LAIRNSALDTCIKTKSQPMMPVSRPM.

4. The conjugate of any one of the preceding claims, wherein the mammalian PLVAP protein comprises an amino acid sequence at least 85% identical to SEQ ID NO: 2.

5. The conjugate of one of the preceding claims, wherein the antibody specifically binds the epitope PPAGIPVAPSSG.

6. The conjugate of any one of the preceding claims, wherein the tissue factor and antibody are chemically cross-linked.

7. The conjugate of any one of the preceding claims, wherein the tissue factor and antibody are linked by a peptide bond.

8. The conjugate of any one of the preceding claims, wherein the antibody is an immunoglobulin comprising a light chain variable region and a heavy chain variable region.

9. The conjugate of Claim 8, wherein the tissue factor and antibody are linked by a peptide bond between the carboxy terminus of a protein comprising the heavy chain variable region and the amino terminus of the tissue factor.

10. The conjugate of Claim 8, wherein the tissue factor and antibody are linked by a peptide bond between the carboxy terminus of a protein comprising the light chain variable region and the amino terminus of the tissue factor.

11. The conjugate of any one of the preceding claims, wherein the tissue factor and antibody are linked by a peptide bond by a linker peptide.

12. The conjugate of Claim 11, wherein the linker peptide comprises $(Gly_4\text{-}Ser)_n$, wherein n is 1, 2, 3, 4, 5, or 6; more preferably wherein n is 3.

13. The conjugate of any one of the preceding claims, wherein the antibody is an immunoglobulin comprising:

    i) a heavy chain variable region comprising the CDRs of the variable region comprising the amino acid sequence of SEQ ID NO: 3 and a light chain variable region comprising the CDRs of the variable region comprising the amino acid sequence of SEQ ID NO: 4, optionally wherein the variable light chain and variable heavy chain have up to 1, 2, 3, or 4 conservative amino acid substitutions in each CDR; or

    ii) a heavy chain variable region comprising the CDRs of the variable region comprising the amino acid sequence of SEQ ID NO: 5 and a light chain variable region comprising the CDRs of the variable region comprising the amino acid sequence of SEQ ID NO: 6, optionally wherein the variable light chain and variable heavy chain have up to 1, 2, 3, or 4 conservative amino acid substitutions in each CDR.

14. The conjugate of Claim 13, wherein the light chain variable region and/or heavy chain variable region are humanized.

15. The conjugate of Claim 14, wherein the light chain variable region and heavy chain variable region are given by:

    i) a heavy chain variable region selected from SEQ ID NO: 7, 8, 9, 10, or 11, more particularly wherein the heavy chain variable region is SEQ ID NO: 11; and a

light chain variable region selected from SEQ ID NO: 12, 13, or 14, more particularly wherein the light chain variable region is SEQ ID NO: 13; or

ii) a heavy chain variable region selected from SEQ ID NO: 15, 16, 17, 18, or 19, more particularly wherein the heavy chain variable region is SEQ ID NO: 19; and a light chain variable region selected from SEQ ID NO: 20, 21, or 22, more particularly wherein the light chain variable region is SEQ ID NO: 22.

16. The conjugate of Claim 11, wherein the conjugate comprises SEQ ID NO: 23.

17. A pharmaceutical composition comprising the conjugate of any one of the preceding claims, wherein the composition further comprises a suitable carrier, excipient, and/or contrast medium.

18. The pharmaceutical composition of Claim 17 or the conjugate of any one of Claims 1-16, which is in a dosage form suitable for administration to a subject.

19. A nucleic acid encoding the conjugate of any one of Claims 1-5 or 7-16.

20. A vector comprising the nucleic acid of Claim 19.

21. A host cell comprising the vector of Claim 20 or the nucleic acid of Claim 19.

22. The host cell of Claim 21, wherein the host cell is a bacterial cell, more particularly wherein the bacterial cell is *Escherichia coli*.

23. The host cell of Claim 21, wherein the cell is a eukaryotic cell selected from a fungus, such as yeast, including budding yeast; an insect cell; or mammalian cells, such as CHO, VERO, or COS cells.

24. A method of making the conjugate of any one of Claims 1-5 or 7-16, comprising culturing the host cell of any one of Claims 21-23 under conditions that support the expression of the conjugate by the host and isolating the expressed conjugate.

25. The use of the conjugate of any one of Claims 1-16 or the pharmaceutical composition of Claim 17 or Claim 18 in the manufacture of a medicament for the treatment of a tumor with PLVAP-positive vasculature, reducing volume of a tumor with PLVAP-positive vasculature, or inducing thrombosis and tumor necrosis of a tumor with PLVAP-positive vasculature, in a mammalian subject in need thereof.

26. The use of Claim 25, wherein the tumor is a hepatocellular carcinoma (HCC) and HCC tumor volume is reduced by thrombosis and tumor necrosis after administration of the conjugate.

27. The use of Claim 25 or Claim 26, wherein the subject is a human.

28. The use of any one of Claims 25-27, wherein the conjugate is to be administered intravascularly to the tumor of the subject.

29. The use of any one of Claims 25-28, wherein the conjugate is to be infused directly into one or more tumor-feeding arteries.

30. The use of the conjugate of any one of Claims 1-16 or the pharmaceutical composition of Claim 17 or Claim 18 in the manufacture of a medicament for the treatment of hepatocellular carcinoma (HCC) in a human subject in need thereof, wherein the conjugate or composition is to be infused directly into one or more tumor-feeding arteries.

31. The use of any one of Claims 25-30, wherein the subject is to undergo a concurrent or sequential treatment with one or more chemotherapeutic agents, radio-therapy, intratumoral alcohol injection, surgery, cryotherapy, radio frequency ablation, or a combination of one or more of the foregoing.

32. The use of Claim 31, wherein the conjugate is to be administered to the subject together with one or more chemotherapeutic agents.

33. The use of Claim 32, wherein the one or more chemotherapeutic agents comprises a therapeutically effective amount of sorafenib, bevacizumAb, or other antiangiogenic therapeutic drugs.

34. The use of Claim 32, wherein the conjugate is to be administered to the subject in a pharmaceutical composition further comprising the one or more chemotherapeutic agents.

35. The use of any one of Claims 25-34, wherein the tumor with PLVAP-positive vasculature is a glioblastoma.

36. The use of any one of Claims 25-35, wherein the conjugate is to be administered at a dose of 5 to 200 μg/cm^3 of tumor, more particularly 10 to 150 μg/$cm^3$of tumor, and more particularly 15 to 100 μg/$cm^3$of tumor.

37. The use of any one of Claims 25-36, wherein the conjugate is to be administered in a single dose.

38. The use of any one of Claims 25-36, wherein the conjugate is to be administered in 2, 3, 4, 5, 6, 7, 8, 9, 10 doses, or more.

39. The use of Claim 37, wherein the doses are to be administered over a period of 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 days; or 1, 2, 3, 4, 5, or 6 weeks; or 1, 2, 3, 4, 5, or 6 months, or more.