pathological conditions involve aberrant cell proliferation and/or regulation. Solid cancers and exudative macular degeneration depend upon the recruitment of a new blood supply for continued growth as well as metastasis.

SUMMARY OF THE INVENTION

[0009] Provided herein are new formulations of anti-CD105 antibodies, pre-filled syringes containing the formulations, and the use of such formulations for treating angiogenesis-related disorders. The present application provides formulations that may be used for intravenous or intraocular administration of, for example, treatment of cancers associated with CD105 and ophthalmologic conditions.

[0010] In one aspect, provided herein is a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, ~~up~~ from about 5mM to about 100 mM of a buffering agent, ~~up~~ from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5.

[0011] In one aspect, the formulation is stable following preparation, which can be tested according to conventional means. With respect to stability of the formulation over time, at least 95% of the anti-CD105 antibody, or antigen-binding fragment thereof, may be present as a monomer following storage at about 2 to 8°C for at least about 12 months as measured by size exclusion chromatography (SEC). In some embodiments, the buffering agent of such formulations is histidine or phosphate buffered saline. With respect to the stability of the formulation over time, at least 90% of the anti-CD105 antibody, or antigen-binding fragment thereof, may be present as a monomer following storage at about 25° C for at least about 6 months as measured by size exclusion chromatography (SEC). In some embodiments, the buffering agent of such formulations is acetate.

[0012] Further, the anti-CD105 antibody, or antigen-binding fragment thereof, may display from about 50 to about 150% binding by a CD105 ELISA binding assay after storage at about 2 to 8°C for at least about 12 months.

[0013] The average isoelectric point (pI) of the anti-CD105 antibody may be from about 8.7 to about 9.2 after storage at 2 to 8°C for at least about 12 months, as measured by, for example, capillary electrophoresis-isoelectric focusing.

[0014] One would understand that the anti-CD105 antibody, or antigen-binding fragment thereof, may be stable for at least about 12 months, at least about 18 months, at least about 24 months, at least about 30 months, at least about 36 months, or more.

[0015] A formulation may contain at least 95% of the anti-CD105 antibody present as monomer as measured by SEC following freezing and thawing cycles of the formulation. Alternatively, or

about 80%, about 90%, about 95%, or about 100% following administration of one or more doses of the formulation to the patient.

[0044] In another embodiment, one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold, or more, following administration of one or more doses of the formulation to the patient.

[0045] Provided herein is a method of treating an ophthalmologic condition in a patient in need thereof, comprising administering to said patient a formulation described herein, whereby one or more signs or symptoms of said ophthalmologic condition are ameliorated by the treatment. Administration of the formulation may be intravitreal administration.

[0046] Also provided herein is a method of preventing or treating a cancer or metastasis in a subject in need thereof, comprising administering to said patient a formulation described herein, whereby one or more signs or symptoms of said cancer or metastasis are ameliorated. Administration of the formulation may be intravenous administration.

[0047] In the methods provided herein, a subject to be treated can be a human or a non-human subject. Formulations provided herein can be administered once or multiple times depending on the health of the patient, the progression of the disease or condition, and the efficacy of the treatment. Adjustments to therapy and treatments can be made throughout the course of treatment (*e.g.*, the dosage of an antibody in a composition).

[0048] In one embodiment, there is provided use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, ~~up~~ from about 5mM to about 100 nM of a buffering agent, ~~up~~ from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5, in the manufacture of a medicament for treating an angiogenesis-related disease in a subject in need thereof.

[0048a] In one embodiment, there is provided use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, ~~up~~ from about 5mM to about 100 nM of a buffering agent, ~~up~~ from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5, and optionally a surfactant, in the manufacture of a medicament for treating an ophthalmologic condition in a patient in need thereof.

[0048b] In one embodiment, there is provided use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, ~~up~~ from 5mM to about 100 nM of a buffering agent, ~~up~~ from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5,

CLAIMS

WHAT IS CLAIMED IS:

1. A formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, from about 5mM to about 100 mM of a buffering agent, from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5.

2. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as a monomer following storage at about 2 to 8° C for at least 12 months as measured by size exclusion chromatography (SEC).

3. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as a monomer following storage at about 25° C for at least 6 months as measured by size exclusion chromatography (SEC).

4. The formulation of claim 1, wherein at least 90% of the anti-CD105 antibody is present as a monomer following storage at about 25° C for at least 6 months as measured by size exclusion chromatography (SEC).

5. The formulation of claim 1, wherein said buffering agent is histidine or phosphate buffered saline.

6. The formulation of claim 1, wherein the buffering agent is acetate and the pH is about 4.

7. The formulation of claim 1 wherein the buffering agent is histidine and the pH is about 5.5.

8. The formulation of claim 1, wherein the anti-CD105 antibody, or antigen-binding fragment thereof, displays about 50 to 150% binding by a CD105 ELISA binding assay after storage at about 2 to 8 °C for at least 12 months.

9. The formulation of claim 1, wherein the average isoelectric point (pI) of the anti-CD105 antibody is from about 8.7 to about 9.2 after storage at 2 to 8° C for at least 12 months, as measured by capillary electrophoresis-isoelectric focusing.

10. The formulation of claim 1, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

11. The formulation of claim 1, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as

SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

12. The formulation of claim 1, comprising about 25 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

13. The formulation of claim 1, comprising about 50 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

14. The formulation of claim 1, comprising about 100 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

15. The formulation of claim 1, wherein said buffering agent is histidine or acetate.

16. The formulation of claim 15, comprising about 20 mM histidine or acetate.

17. The formulation of claim 1, wherein said formulation is formulated for intravitreal or intravenous administration.

18. The formulation of claim 1, further comprising an acceptable carrier or excipient.

19. The formulation of claim 18, wherein said carrier or excipient is a pharmaceutically acceptable carrier or excipient.

20. The formulation of claim 1, which is isotonic or hypertonic.

21. The formulation of claim 1, wherein the polyol is less than 300 mM and the formulation is made isotonic with a salt.

22. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as monomer as measured by SEC following freezing and thawing cycles of the formulation.

23. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as monomer as measured by SEC when subjected to agitation stress.

24. The formulation of claim 1, wherein the polyol is a sugar.

25. The formulation of claim 24, wherein said sugar is a non-reducing sugar.

26. The formulation of claim 25, wherein the non-reducing sugar is trehalose or sucrose.

27. The formulation of claim 26, comprising about 240 mM trehalose or sucrose.

28. The formulation of claim 24, wherein the sugar is sorbitol.

29. The formulation of claim 28, comprising about 240 mM sorbitol.

30. The formulation of claim 1, further comprising a surfactant.

31. The formulation of claim 30, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

32. A pre-filled syringe suitable for intravenous or intravitreal administration comprising the formulation of any of the preceding claims.

33. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, from about 5mM to about 100 mM of a buffering agent, from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5, in the manufacture of a medicament for treating an angiogenesis-related disease in a subject in need thereof.

34. The use of claim 33, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

35. The use of claim 33, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

36. The use of claim 33, comprising about 25 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

37. The use of claim 33, comprising about 50 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

38. The use of claim 33, comprising about 100 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

39. The use of claim 33, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

40. The use of claim 33, wherein said buffering agent is histidine or acetate.

41. The use of claim 40, comprising about 20 mM histidine or acetate.

42. The use of claim 33, wherein the polyol is a sugar.

43. The use of claim 42, wherein the sugar is a non-reducing sugar.

44. The use of claim 43, wherein the non-reducing sugar is trehalose or sucrose.

45. The use of claim 44, comprising about 240 mM trehalose or sucrose.

46. The use of claim 42, wherein the sugar is sorbitol.

47. The use of claim 46, comprising about 240 mM sorbitol.

48. The use of claim 33, wherein said formulation is administered intravitreally or intravenously.

49. The use of claim 33, further comprising a surfactant.

50. The use of claim 49, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

51. The use of claim 33, wherein the angiogenesis-related disease is a cancer, or a metastasis.

52. The use of claim 51, wherein the cancer is a solid tumor.

53. The use of claim 51, wherein the cancer is an epithelial based tumor.

54. The use of claim 51, wherein the cancer is a lung cancer, a melanoma, a breast cancer, a pancreatic cancer, an ovarian cancer, a colorectal cancer, a prostate cancer, a kidney cancer, a liver cancer (hepatocellular cancer), a uterine cancer, a neck cancer, a sarcoma, a myeloma, a brain cancer, or a lymphoma.

55. The use of claim 33, wherein said angiogenesis-related disease is an ophthalmologic condition.

56. The use of claim 55, wherein the ophthalmologic condition is age-related macular degeneration, diabetic retinopathy, or choroidal neovascularization.

57. The use of claim 56, wherein said age related macular degeneration (AMD) is wet AMD or dry AMD.

58. The use of claim 33, wherein said formulation is administered to said patient one or more times.

59. The use of claim 33, wherein said formulation is administered once per day, once per week, once per month, once bi-monthly, once every two months, once every three months, once every four months, once every 5 months, or once every 6 months.

60. The use of claim 33, wherein said formulation is administered until one or more signs or symptoms of said angiogenesis-related disease are reduced, wherein said one or more signs or symptoms are shrinking blood vessels, inhibiting endothelial cell proliferation associated with ocular disease, clearing signs or symptoms of bleeding, treating cloudy vision, providing stasis of vision loss, improving vision, and/or preventing leakage of blood vessels.

61. The use of claim 60, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

62. The use of claim 60, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

63. The use of claim 33, wherein treatment results in improving the patient's condition and can be assessed by determining if one or more of the following factors has occurred: decreased cell proliferation, decreased numbers of cells, increased apoptosis, or decreased survival of at least a portion of the cells comprising the cell proliferative disorder.

64. The use of claim 33, wherein treatment results in partial or total elimination of a tumor or metastases and/or prolongation of survival of the patient.

65. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, from about 5mM to about 100 mM of a buffering agent, from about 50mM to about 1 M of a polyol, a pH of about 4.0 to about 7.5, and optionally a surfactant, in the manufacture of a medicament for treating an ophthalmologic condition in a patient in need thereof.

66. The use of claim 65, wherein the ophthalmologic condition is age-related macular degeneration, diabetic retinopathy, or choroidal neovascularization.

67. The use of claim 66, wherein said age-related macular degeneration (AMD) is wet AMD or dry AMD.

68. The use of claim 65, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

69. The use of claim 65, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

70. The use of claim 65, wherein said one or more signs or symptoms are shrinking blood vessels, inhibiting endothelial cell proliferation associated with ocular disease, clearing

signs or symptoms of bleeding, treating cloudy vision, providing stasis of vision loss, improving vision, and/or preventing leakage of blood vessels.

71. The use of claim 65, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

72. The use of claim 65, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

73. The use of claim 65, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

74. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, from about 50mM to about 100 mM of a buffering agent, from about 50mM to about 1 M of a polyol, and a pH of about 4.0 to about 7.5, in the manufacture of a medicament for preventing or treating a cancer or metastasis in a subject in need thereof.

75. The use of claim 74, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

76. The use of claim 74, wherein said anti-CD105 antibody comprises a VL CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a VL CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a VL CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a VH CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a VH CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a VH CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

77. The use of claim 74, wherein administration of the formulation prolongs the life of the subject.

78. The use of claim 74, wherein said cancer is a primary tumor or a metastatic tumor.

79. The use of claim 74, wherein said cancer is a solid tumor.

80. The use of claim 79, wherein said solid tumor is of a tissue or organ selected from among skin, melanoma, lung, pancreas, breast, ovary, colon, rectum, stomach, thyroid, larynx, prostate, neck, eye, mouth, throat, esophagus, chest, bone, testis, lymphoid, marrow, bone, sarcoma, sweat gland, liver, kidney and brain.

81. The use of claim 80, wherein said solid tumor is a colon tumor, a breast tumor, a kidney tumor, a lung tumor, a prostate tumor, an ovarian tumor, or a metastasis of any of such tumors.

82. The use of claim 74, wherein treatment results in improving the subject's condition and can be assessed by determining if one or more of the following factors has occurred: decreased cell proliferation, decreased numbers of cells, increased apoptosis, or decreased survival of at least a portion of the cells comprising the cell proliferative disorder.

83. The use of claim 74, wherein treatment results in partial or total elimination of a tumor or metastases and/or prolongation of survival of the patient.

84. The use of claim 74, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

85. The use of claim 74, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

86. The use of claim 74, comprising about 25 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

87. The use of claim 74, comprising about 50 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

88. The use of claim 74, comprising about 100 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

89. The use of claim 74, wherein said buffering agent is histidine or acetate.

90. The use of claim 89, comprising about 20 mM histidine or acetate.

91. The use of claim 74, wherein the polyol is a sugar.

92. The use of claim 91, wherein said sugar is a non-reducing sugar.

93. The use of claim 92, wherein the non-reducing sugar is trehalose or sucrose.

94. The use of claim 93, comprising about 240 mM trehalose or sucrose.

95. The use of claim 91, wherein said sugar is sorbitol.

96. The use of claim 95, comprising about 240 mM sorbitol.

97. The use of claim 74, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

98. The use of claim 74, further comprising a surfactant.

99. The use of claim 98, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

100. The use of claim 74, wherein said formulation is administered intravenously.

101. The formulation of claim 1, wherein said formulation comprises any one of the formulations 1-39 of Table 1.

102. A pre-filled syringe comprising a formulation of claim 101.

103. Use of a formulation of claim 101 for the treatment of an angiogenesis-related disease.

104. Use of a formulation of claim 101 in the manufacture of a medicament for the treatment of an angiogenesis-related disease.

105. The use of claim 54, wherein the brain cancer is a glioblastoma multiforme or glioma.

106. The use of claim 80, wherein the solid tumor is a brain cancer that is a glioblastoma multiforme or glioma.

CLAIMS

WHAT IS CLAIMED IS:

1. A formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, up to about 100 mM buffering agent, up to about 1 M polyol, and a pH of about 4.0 to about 7.5.

2. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as a monomer following storage at about 2 to 8° C for at least 12 months as measured by size exclusion chromatography (SEC).

3. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as a monomer following storage at about 25° C for at least 6 months as measured by size exclusion chromatography (SEC).

4. The formulation of claim 1, wherein at least 90% of the anti-CD105 antibody is present as a monomer following storage at about 25° C for at least 6 months as measured by size exclusion chromatography (SEC).

5. The formulation of claim 1, wherein said buffering agent is histidine or phosphate buffered saline.

6. The formulation of claim 1, wherein the buffering agent is acetate and the pH is about 4.

7. The formulation of claim 1 wherein the buffering agent is histidine and the pH is about 5.5.

8. The formulation of claim 1, wherein the anti-CD105 antibody, or antigen-binding fragment thereof, displays about 50 to 150% binding by a CD105 ELISA binding assay after storage at about 2 to 8 °C for at least 12 months.

9. The formulation of claim 1, wherein the average isoelectric point (pI) of the anti-CD105 antibody is from about 8.7 to about 9.2 after storage at 2 to 8° C for at least 12 months, as measured by capillary electrophoresis-isoelectric focusing.

10. The formulation of claim 1, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

11. The formulation of claim 1, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H

CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

12. The formulation of claim 1, comprising about 25 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

13. The formulation of claim 1, comprising about 50 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

14. The formulation of claim 1, comprising about 100 mg/ml of the anti-CD105 antibody or, antigen-binding fragment thereof.

15. The formulation of claim 1, wherein said buffering agent is histidine or acetate.

16. The formulation of claim 15, comprising about 20 mM histidine or acetate.

17. The formulation of claim 1, wherein said formulation is formulated for intravitreal or intravenous administration.

18. The formulation of claim 1, further comprising an acceptable carrier or excipient.

19. The formulation of claim 18, wherein said carrier or excipient is a pharmaceutically acceptable carrier or excipient.

20. The formulation of claim 1, which is isotonic or hypertonic.

21. The formulation of claim 1, wherein the polyol is less than 300 mM and the formulation is made isotonic with a salt.

22. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as monomer as measured by SEC following freezing and thawing cycles of the formulation.

23. The formulation of claim 1, wherein at least 95% of the anti-CD105 antibody is present as monomer as measured by SEC when subjected to agitation stress.

24. The formulation of claim 1, wherein the polyol is a sugar.

25. The formulation of claim 24, wherein said sugar is a non-reducing sugar.

26. The formulation of claim 25, wherein the non-reducing sugar is trehalose or sucrose.

27. The formulation of claim 26, comprising about 240 mM trehalose or sucrose.

28. The formulation of claim 24, wherein the sugar is sorbitol.

29. The formulation of claim 28, comprising about 240 mM sorbitol.

30. The formulation of claim 1, further comprising a surfactant.

31. The formulation of claim 30, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

32. A pre-filled syringe suitable for intravenous or intravitreal administration comprising the formulation of any of the preceding claims.

33. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, up to about 100 mM buffering agent, up to about 1 M polyol, and a pH of about 4.0 to about 7.5, in the manufacture of a medicament for treating an angiogenesis-related disease in a subject in need thereof.

34. The use of claim 33, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

35. The use of claim 33, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

36. The use of claim 33, comprising about 25 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

37. The use of claim 33, comprising about 50 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

38. The use of claim 33, comprising about 100 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

39. The use of claim 33, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

40. The use of claim 33, wherein said buffering agent is histidine or acetate.

41. The use of claim 40, comprising about 20 mM histidine or acetate.

42. The use of claim 33, wherein the polyol is a sugar.

43. The use of claim 42, wherein the sugar is a non-reducing sugar.

44. The use of claim 43, wherein the non-reducing sugar is trehalose or sucrose.

45. The use of claim 44, comprising about 240 mM trehalose or sucrose.

46. The use of claim 42, wherein the sugar is sorbitol.

47. The use of claim 46, comprising about 240 mM sorbitol.

48. The use of claim 33, wherein said formulation is administered intravitreally or intravenously.

49. The use of claim 33, further comprising a surfactant.

50. The use of claim 49, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

51. The use of claim 33, wherein the angiogenesis-related disease is a cancer, or a metastasis.

52. The use of claim 51, wherein the cancer is a solid tumor.

53. The use of claim 51, wherein the cancer is an epithelial based tumor.

54. The use of claim 51, wherein the cancer is a lung cancer, a gynecologic malignancy, a melanoma, a breast cancer, a pancreatic cancer, an ovarian cancer, a uterine cancer, a colorectal cancer, a prostate cancer, a kidney cancer, a head cancer, a pancreatic cancer, a liver cancer (hepatocellular cancer), a uterine cancer, a neck cancer, a kidney cancer (renal cell cancer), a sarcoma, a myeloma, a brain cancer, or a lymphoma.

55. The use of claim 33, wherein said angiogenesis-related disease is an ophthalmologic condition.

56. The use of claim 55, wherein the ophthalmologic condition is age-related macular degeneration, diabetic retinopathy, or choroidal neovascularization.

57. The use of claim 56, wherein said age related macular degeneration (AMD) is wet AMD or dry AMD.

58. The use of claim 33, wherein said formulation is administered to said patient one or more times.

59. The use of claim 33, wherein said formulation is administered once per day, once per week, once per month, once bi-monthly, once every two months, once every three months, once every four months, once every 5 months, or once every 6 months.

60. The use of claim 33, wherein said formulation is administered until one or more signs or symptoms of said angiogenesis-related disease are reduced.

61. The use of claim 60, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

62. The use of claim 60, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

63. The use of claim 60, wherein said one or more signs or symptoms are shrinking blood vessels, inhibiting endothelial cell proliferation associated with ocular disease, clearing signs or symptoms of bleeding, treating cloudy vision, providing stasis of vision loss, improving vision, and/or preventing leakage of blood vessels.

64. The use of claim 33, wherein treatment results in improving the patient's condition and can be assessed by determining if one or more of the following factors has occurred: decreased cell proliferation, decreased numbers of cells, increased apoptosis, or decreased survival of at least a portion of the cells comprising the cell proliferative disorder.

65. The use of claim 33, wherein treatment results in partial or total elimination of a tumor or metastases and/or prolongation of survival of the patient.

66. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, up to about 100 mM buffering agent, up to about 1 M polyol, a pH of about 4.0 to about 7.5, and optionally a surfactant, in the manufacture of a medicament for treating an ophthalmologic condition in a patient in need thereof.

67. The use of claim 66, wherein the ophthalmologic condition is age-related macular degeneration, diabetic retinopathy, or choroidal neovascularization.

68. The use of claim 67, wherein said age-related macular degeneration (AMD) is wet AMD or dry AMD.

69. The use of claim 66, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

70. The use of claim 66, wherein said anti-CD105 antibody comprises a V_L CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a V_L CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a V_L CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a V_H CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a V_H CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a V_H CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

71. The use of claim 66, wherein said one or more signs or symptoms are shrinking blood vessels, inhibiting endothelial cell proliferation associated with ocular disease, clearing signs or symptoms of bleeding, treating cloudy vision, providing stasis of vision loss, improving vision, and/or preventing leakage of blood vessels.

72. The use of claim 66, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

73. The use of claim 66, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

74. The use of claim 66, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

75. Use of a formulation comprising from about 1 mg/ml to about 150 mg/ml of an anti-CD105 antibody, or antigen-binding fragment thereof, up to about 100 mM buffering agent, up to about 1 M polyol, and a pH of about 4.0 to about 7.5, in the manufacture of a medicament for preventing or treating a cancer or metastasis in a subject in need thereof.

76. The use of claim 75, wherein said anti-CD105 antibody comprises a light chain variable region (V_L) having an amino acid sequence set forth as SEQ ID NO: 1; a light chain constant region (C_L) having an amino acid sequence set forth as SEQ ID NO: 2; a heavy chain variable region (V_H) having an amino acid sequence set forth as SEQ ID NO: 3; and a constant region (Fc) having an amino acid sequence set forth as SEQ ID NO: 4.

77. The use of claim 75, wherein said anti-CD105 antibody comprises a VL CDR1 having an amino acid sequence set forth as SEQ ID NO: 5; a VL CDR2 having an amino acid sequence set forth as SEQ ID NO: 6; a VL CDR3 having an amino acid sequence set forth as SEQ ID NO: 7; a VH CDR1 having an amino acid sequence set forth as SEQ ID NO: 8; a VH CDR2 having an amino acid sequence set forth as SEQ ID NO: 9; and a VH CDR3 having an amino acid sequence set forth as SEQ ID NO: 10.

78. The use of claim 75, wherein administration of the formulation prolongs the life of the subject.

79. The use of claim 75, wherein said cancer is a primary tumor or a metastatic tumor.

80. The use of claim 75, wherein said cancer is a solid tumor.

81. The use of claim 80, wherein said solid tumor is of a tissue or organ selected from among skin, melanoma, lung, pancreas, breast, ovary, colon, rectum, stomach, thyroid, laryngeal, ovarian, prostate, colorectal, head, neck, eye, mouth, throat, esophagus, chest, bone, testicular, lymphoid, marrow, bone, sarcoma, renal, sweat gland, liver, kidney, brain (*e.g.* glioblastoma multiforme, glioma), and the like.

82. The use of claim 81, wherein said solid tumor is a colon tumor, a breast tumor, a kidney tumor, a lung tumor, a prostate tumor, an ovarian tumor, or a metastasis of any of such tumors.

83. The use of claim 75, wherein treatment results in improving the subject's condition and can be assessed by determining if one or more of the following factors has occurred: decreased cell proliferation, decreased numbers of cells, increased apoptosis, or decreased survival of at least a portion of the cells comprising the cell proliferative disorder.

84. The use of claim 75, wherein treatment results in partial or total elimination of a tumor or metastases and/or prolongation of survival of the patient.

85. The use of claim 75, wherein said one or more signs or symptoms are reduced in severity or duration by about 2%, about 5%, about 10%, about 15%, about 20%, about 25%, about 30%, about 35%, about 40%, about 45%, about 50%, about 55%, about 60%, about 65%, about 70%, about 75%, about 80%, about 90%, about 95%, or about 100%.

86. The use of claim 75, wherein said one or more signs or symptoms are reduced in severity or duration by about 2-fold, about 5-fold, about 10-fold, about 15-fold, about 20-fold, about 25-fold, about 30-fold, about 35-fold, about 40-fold, about 45-fold, about 50-fold, about 55-fold, about 60-fold, about 65-fold, about 70-fold, about 75-fold, about 80-fold, about 90-fold, about 95-fold, about 100-fold or more.

87. The use of claim 75, comprising about 25 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

88. The use of claim 75, comprising about 50 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

89. The use of claim 75, comprising about 100 mg/ml anti-CD105 antibody or, antigen-binding fragment thereof.

90. The use of claim 75, wherein said buffering agent is histidine or acetate.

91. The use of claim 90, comprising about 20 mM histidine or acetate.

92. The use of claim 75, wherein the polyol is a sugar.

93. The use of claim 92, wherein said sugar is a non-reducing sugar.

94. The use of claim 93, wherein the non-reducing sugar is trehalose or sucrose.

95. The use of claim 94, comprising about 240 mM trehalose or sucrose.

96. The use of claim 92, wherein said sugar is sorbitol.

97. The use of claim 96, comprising about 240 mM sorbitol.

98. The use of claim 75, wherein said formulation comprises less than 300 mM polyol and the formulation is made isotonic with a salt.

99. The use of claim 75, further comprising a surfactant.

100. The use of claim 99, wherein the surfactant is polysorbate 20, polysorbate 80 or Pluronic® F68.

101. The use of claim 75, wherein said formulation is administered intravenously.

102. A formulation comprising any one of the formulations 1-39 of Table 1.

103. A pre-filled syringe comprising a formulation of claim 102.

104. Use of a formulation of claim 102 for the treatment of an angiogenesis-related disease.

105. Use of a formulation of claim 102 in the manufacture of a medicament for the treatment of an angiogenesis-related disease.