

WHAT IS CLAIMED:

1. ~~A pharmaceutical composition comprising (i) an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, (ii) a buffer selected from the group consisting of acetate or citrate, and (iii) a sugar, wherein the pH of the composition is about 4.5 to about 6.~~
2. ~~A pharmaceutical composition comprising (i) an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4 and comprises the VH CDR1, VH CDR2, VH CDR3 and VL CDR1, CDR2, and CDR3 sequences of SEQ ID NOs: 5-10, respectively, (ii) a buffer, and (iii) a pH of about 4.5 to about 6.~~
3. ~~A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, wherein the composition comprises no more than 45% of acidic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
4. ~~A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, wherein the composition comprises about 30% to about 45% of acidic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
5. ~~A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, wherein the composition comprises no more than 20% of basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
6. ~~A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, wherein the composition comprises about 9% to about 18% of basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
7. ~~A pharmaceutical composition comprising an antibody or antigen-binding fragment thereof that specifically binds to human B7-H4, wherein the composition comprises no more than 60% of acidic and basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~

8. ~~The composition of any one of claims 1-7, wherein composition comprises about 30% to about 40% of acidic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
9. ~~The composition of claim 8, wherein the composition comprises about 35% to about 40% of acidic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
10. ~~The composition of any one of claims 1-9, wherein the composition comprises about 10% to about 17% of basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
11. ~~The composition of claim 10, wherein the composition comprises about 11% to about 16% of basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
12. ~~The composition of any one of claims 1-11, wherein the composition comprises no more than 55% of acidic and basic variants of the antibody or antigen-binding fragment thereof after 6 months at 5 °C.~~
13. ~~The composition of any one of claims 1 or 3-12, wherein the antibody or antigen-binding fragment thereof comprises the VH CDR1, VH CDR2, VH CDR3 and VL CDR1, CDR2, and CDR3 sequences of SEQ ID NOs: 5-10, respectively.~~
14. ~~The composition of any one of claims 3-13, wherein the pH of the composition is about 4.5 to about 6.~~
15. ~~The composition of any one of claims 3-14, wherein the composition comprises a buffer.~~
16. ~~The composition of claim 2 or 15, wherein the buffer is acetate or citrate.~~
17. ~~The composition of any one of claims 2-15, wherein the composition further comprises a sugar.~~
18. ~~The composition of claim 1 or 17, wherein the sugar is selected from the group consisting of sucrose, sorbitol, and trehalose.~~

19. — ~~The composition of any one of claims 1, 2, and 15-18, wherein the concentration of the buffer is about 15 to about 25 mM.~~
20. — ~~The composition of claim 19, wherein the concentration of the buffer is about 18 mM to about 22 mM.~~
21. — ~~The composition of claim 20, wherein the concentration of the buffer is about 20 mM.~~
22. — ~~The composition of any one of claims 1 and 17-21, wherein the concentration of the sugar is about 225 mM to about 300 mM.~~
23. — ~~The composition of claim 22, wherein the concentration of the sugar is about 250 mM to about 290 mM.~~
24. — ~~The composition of claim 23, wherein the concentration of the sugar is about 270 mM.~~
25. — ~~The composition of any one of claims 1 and 17-24, wherein the concentration of the sugar is about 10 to about 15 times the concentration of the buffer, optionally wherein the concentration of the sugar is about 13.5 times the concentration of the buffer.~~
26. — ~~The composition of any one of claims 1-25, wherein the composition further comprises a surfactant.~~
27. — ~~The composition of claim 26, wherein the surfactant is polysorbate, optionally wherein the polysorbate is polysorbate 20.~~
28. — ~~The composition of claim 26 or 27, wherein the concentration of the surfactant is about 0.025% to about 0.075% weight/volume (w/v).~~
29. — ~~The composition of claim 28, wherein the concentration of the surfactant is about 0.035% to about 0.065% weight/volume (w/v).~~
30. — ~~The composition of claim 29, wherein the concentration of the surfactant is about 0.005% weight/volume (w/v).~~
31. — ~~The composition of any one of claims 1-30, wherein the concentration of the antibody or antigen-binding fragment thereof is about 5 mg/ml to about 30 mg/ml.~~

32. ~~The composition of claim 31, wherein the concentration of the antibody or antigen-binding fragment thereof is about 10 to about 25 mg/ml.~~
33. ~~The composition of claim 32, wherein the concentration of the antibody or antigen-binding fragment thereof is about 20 mg/ml.~~
34. ~~The composition of any one of claims 1-33, wherein the pH is about 5.0 to about 6.0.~~
35. ~~The composition of any one of claims 1-33, wherein the pH is about 5.~~
36. ~~The composition of any one of claims 1-33, wherein the pH is about 5.5.~~
37. ~~The composition of any one of claims 1-36, wherein the composition is a liquid.~~
38. ~~The composition of any one of claims 1-37, wherein the composition is for parenteral administration.~~
39. ~~The composition of any one of claims 1-37, wherein the composition is for intravenous administration.~~
40. ~~The composition of any one of claims 1-39, wherein the buffer is acetate and the excipient is sucrose.~~
41. ~~The composition of any one of claims 1-40 comprising about 20 mM acetate, about 270 mM sucrose, about 20 mg/ml of the antibody or antigen-binding fragment thereof, and about 0.05% polysorbate 20, wherein the pH is about 5.0.~~
42. ~~The composition of any one of claims 1-40 comprising a concentration of sucrose that is about 13.5 times the concentration of acetate, about 20 mg/ml of the antibody or antigen-binding fragment thereof, and about 0.05% polysorbate 20, wherein the pH is about 5.0.~~
43. ~~The composition of any one of claims 1-39, wherein the buffer is citrate and the excipient is sucrose.~~
44. ~~The composition of any one of claims 1-39 or 43, comprising about 20 mM citrate, about 270 mM sucrose, about 20 mg/ml of the antibody or antigen-binding fragment thereof, and about 0.05% polysorbate 20, wherein the pH is about 5.5.~~

45. — ~~The composition of any one of claims 1-39 or 43 comprising a concentration of sucrose that is about 13.5 times the concentration of citrate, about 20 mg/ml of the antibody or antigen-binding fragment thereof, and about 0.05% polysorbate 20, wherein the pH is about 5.5.~~
46. — ~~The composition of any one of claims 1-45, wherein the antibody comprises a VH comprising the amino acid sequence set forth in SEQ ID NO:11 and/or a VL comprising the amino acid sequence set forth in SEQ ID NO:12.~~
47. — ~~The composition of claim 46, wherein the antibody or antigen-binding fragment thereof comprises a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:21 and/or a light chain comprising the amino acid sequence set forth in SEQ ID NO:22.~~
48. — ~~The composition of any one of claims 1-47, wherein at least 95% of the antibodies or antigen-binding fragments thereof in the composition are afucosylated.~~
49. — ~~The composition of any one of claims 1-47, wherein fucosylation is undetectable in the composition.~~
50. — ~~The composition of any one of claims 1-49 comprising a full length antibody.~~
51. — ~~The composition of any one of claims 1-49 comprising an antigen-binding fragment.~~
52. — ~~The composition of claim 51, wherein the antigen-binding fragment comprises a Fab, Fab', F(ab')₂, single chain Fv (scFv), disulfide-linked Fv, V-NAR domain, IgNar, intrabody, IgGΔCH2, minibody, F(ab')₃, tetrabody, triabody, diabody, single domain antibody, DVD-Ig, Fcab, mAb², (scFv)₂, or scFv-Fc.~~
53. — ~~The composition of any one of claims 1-52, wherein the antibody or antigen-binding fragment thereof specifically binds to cynomolgus monkey B7-H4.~~
54. — ~~The composition of any one of claims 1-53, wherein the antibody or antigen-binding fragment thereof specifically binds to rat B7-H4.~~
55. — ~~The composition of any one of claims 1-54, wherein the antibody or antigen-binding fragment thereof specifically binds to mouse B7-H4.~~

56. ~~The composition of any one of claims 1-55, wherein the antibody or antigen-binding fragment thereof specifically binds to the IgV domain of human B7-H4.~~
57. ~~The composition of any one of claims 1-56, wherein the pI of the antibody or antigen-binding fragment thereof is about 8.2.~~
58. ~~A pharmaceutical composition consisting of (i) an antibody comprising a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:21 and/or a light chain comprising the amino acid sequence set forth in SEQ ID NO:22, (ii) about 20 mM acetate, (iii) about 270 mM sucrose, and (iv) about 0.05% weight/volume polysorbate 20, wherein the pH of the composition is about 5.0.~~
59. ~~A pharmaceutical composition consisting of (i) an antibody comprising a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:21 and/or a light chain comprising the amino acid sequence set forth in SEQ ID NO:22, (ii) about 20 mM citrate, (iii) about 270 mM sucrose, and (iv) about 0.05% weight/volume polysorbate 20, wherein the pH of the composition is about 5.5.~~
60. ~~A syringe or vial comprising the pharmaceutical composition of any one of claims 1-59.~~
61. ~~A method of treating a B7-H4 expressing cancer in a subject, the method comprising administering to the subject the pharmaceutical composition of any one of claims 1-59.~~
62. ~~The method of claim 61, wherein the cancer is a solid tumor.~~
63. ~~The method of claim 61 or 62, wherein the cancer is selected from the group consisting of breast cancer, ductal carcinoma, endometrial carcinoma, ovarian cancer, non-small cell lung cancer, pancreatic cancer, thyroid cancer, kidney cancer, and bladder cancer.~~
64. ~~The method of claim 63, wherein the breast cancer is triple negative breast cancer or hormone receptor positive breast cancer.~~
65. ~~The method of claim 63, wherein the non-small cell lung cancer is squamous cell carcinoma.~~

66. ~~The method of any one of claims 61-65, wherein the subject is human.~~
67. ~~The method of any one of claims 61-66, wherein the pharmaceutical composition is administered parenterally.~~
68. ~~The method of any one of claims 61-66, wherein the pharmaceutical composition is administered intravenously.~~

Claims

1. An invention not claimed in any divisional application.