WHAT IS CLAIMED IS:

1. An isolated antibody that specifically binds αvβ8,

wherein the isolated antibody inhibits release of active, mature TGFβ peptide, but does not significantly inhibit adhesion of latent TGFβ to αvβ8 on a αvβ8-expressing cell; and

wherein the isolated antibody binds formalin-fixed αvβ8-expressing cells.

2. The isolated antibody of claim 1, wherein the antibody specifically binds to an epitope on β8 that is within SEQ ID NO:1 (GEVSIQLRPGAEANFMLKVHPLKKYPVDLYYLVDVSASMHNNIEKLNSVGNDLSRKMAFF).

3. The isolated antibody of claim 1 or 2 linked to a detectable label.

4. The isolated antibody of claim 1, wherein the antibody comprises:

heavy chain CDRs SEQ ID NO:48, SEQ ID NO:49, and SEQ ID NO:50; and light chain CDRs SEQ ID NO:51, SEQ ID NO:52, and SEQ ID NO:53;

heavy chain CDRs SEQ ID NO:48, SEQ ID NO:49, and SEQ ID NO:54; and light chain CDRs SEQ ID NO:51, SEQ ID NO:52, and SEQ ID NO:55;

heavy chain CDRs SEQ ID NO:48, SEQ ID NO:90, and SEQ ID NO:54, and light chain CDRs SEQ ID NO:51, 52, and 53; or

heavy chain CDRs SEQ ID NO:112, SEQ ID NO:113, and SEQ ID NO:50, and light chain CDRs SEQ ID NO:105, 107, and 53.

5. The isolated antibody of any one of the proceeding claims, wherein the isolated antibody is humanized.

6. A humanized antibody that specifically binds αvβ8,

wherein the antibody inhibits release of active, mature TGFβ peptide, but does not significantly inhibit adhesion of latent TGFβ to αvβ8 on a αvβ8-expressing cell, and wherein the antibody has a heavy chain variable region of SEQ ID NO:8 and a light chain variable region of SEQ ID NO:9.

7. The isolated or humanized antibody of any one of the proceeding claims, wherein the antibody is an scFv antibody.

8. A pharmaceutical composition comprising the isolated or humanized antibody according to any one of the proceeding claims in a pharmaceutically acceptable excipient.

9. A method of reducing TGFβ signaling in an individual, comprising administering the pharmaceutical composition of claim 8 to the individual, thereby reducing TGFβ signaling in the individual.

10. The method of claim 9, wherein the individual has at least one condition selected from the group consisting of inflammatory bowel disease (IBD), chronic obstructive pulmonary disease (COPD), asthma, arthritis, a hepatic fibrosis, a pulmonary fibrotic disorder, an inflammatory brain autoimmune disease, multiple sclerosis, a demyelinating disease, neuroinflammation, kidney disease, adenocarcinoma, squamous carcinoma, glioma, and breast carcinoma, and wherein reducing TGFβ signaling results in amelioration of the condition.

11. The method of claim 9, wherein the individual has inflammatory bowel disease (IBD), and wherein reducing TGFβ signaling results in amelioration of the IBD.

12. The method of claim 9, wherein the individual has chronic obstructive pulmonary disease (COPD) and/ or a fibrotic pulmonary disorder, and wherein reducing TGFβ signaling results in amelioration of the COD and/ or fibrotic pulmonary disorder.

13. The method of claim 9, wherein the individual has arthritis, and wherein reducing TGFβ signaling results in amelioration of the arthritis.

14. The method of claim 9, wherein the individual has asthma, and wherein reducing TGFβ signaling results in amelioration of the asthma.

15. The method of claim 9, wherein the individual has a hepatic fibrotic disorder, and wherein reducing TGFβ signaling results in amelioration of the hepatic fibrosis.

16. A method of diagnosing a αvβ8 associated disorder in an individual, comprising

contacting a cell from the individual with the isolated antibody of any one of claims 1-7, and

detecting binding of the isolated antibody to the cell,

wherein the αvβ8 associated disorder is selected from the group consisting of inflammatory bowel disease (IBD), chronic obstructive pulmonary disease (COPD), asthma, arthritis, hepatic fibrosis, a pulmonary fibrotic disorder, an inflammatory brain autoimmune disease, multiple sclerosis, a demyelinating disease, neuroinflammation, kidney disease, adenocarcinoma, squamous carcinoma, glioma, and breast carcinoma, and

wherein binding of the isolated antibody to the cell indicates that the individual has the αvβ8 associated disorder.

17. The method of claim 16, wherein the cell is fixed.

18. The method of claim 16 or 17, wherein the contacting is *in vitro*.

19. The method of claim 16, wherein the contacting is *in vivo*.

20. The method of any one of claims 16-19, wherein the αvβ8 associated disorder is inflammatory bowel disease.

21. The method of any one of claims 16-19, wherein the αvβ8 associated disorder is arthritis.

22. The method of any one of claims 16-19, wherein the αvβ8 associated disorder is hepatic fibrosis.

23. The method of any one of claims 16-19, wherein the αvβ8 associated disorder is chronic obstructive pulmonary disease (COPD) and/ or a fibrotic pulmonary disorder.

24. The method of any one of claims 16-19, wherein the αvβ8 associated disorder is asthma.

25. The method of any one of claims 16-24, further comprising administering to the individual the pharmaceutical composition of claim 8.

26. The method of claim 25, wherein the pharmaceutical composition comprises the isolated antibody of any one of claims 1-5.

27. The method of claim 25, wherein the pharmaceutical composition comprises the humanized antibody of claim 5 or 6.

28. An isolated antibody that specifically binds to αvβ8, wherein said antibody does not inhibit release of active, mature TGFβ peptide or adhesion of latent TGFβ to αvβ8 on a αvβ8-expressing cell.

29. The isolated antibody of claim 28, wherein the antibody specifically binds to an epitope on β8 that is within SEQ ID NO:1.
(GEVSIQLRPGAEANFMLKVHPLKKYPVDLYYLVDVSASMHNNIEKLNSVGNDLSRKMAFF).

30. The isolated antibody of claim 28 or 29, linked to a detectable label.

31. The isolated antibody of any one of claims 28-30, wherein the antibody is humanized.

32. The isolated antibody of any one of claims 28-31, wherein the antibody is an scFv antibody.

33. The isolated antibody of any one of claims 28-32, wherein the antibody comprises:

heavy chain CDR sequences SEQ ID NO:58, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:61, SEQ ID NO:62, and SEQ ID NO:63;

heavy chain CDR sequences SEQ ID NO:64, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:65, SEQ ID NO:66, and SEQ ID NO:67;

heavy chain CDR sequences SEQ ID NO:58, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:63;

heavy chain CDR sequences SEQ ID NO:64, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:67;

heavy chain CDR sequences SEQ ID NO:58, SEQ ID NO:76, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:77;

heavy chain CDR sequences SEQ ID NO:64, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:80;

heavy chain CDR sequences SEQ ID NO:83, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:71; or

heavy chain CDR sequences SEQ ID NO:58, SEQ ID NO:59, and SEQ ID NO:60 and light chain CDR sequences SEQ ID NO:70, SEQ ID NO:66, and SEQ ID NO:71.

34. A method for detecting the presence of a αvβ8-expressing cell comprising contacting a cell with the antibody of any one of claims 28-33, and determining whether the antibody binds to the cell, wherein antibody binding to the cell indicates the presence of an αvβ8-expressing cell.

35. The method of claim 34, wherein the contacting is *in vivo*.

36. The method of claim 34, wherein the contacting is *in vitro*.

37. A method of diagnosing an αvβ8 associated disorder in an individual, comprising

contacting a cell from the individual with the isolated antibody of any one of claims 28-33, and

detecting binding of the isolated antibody to the cell,

wherein the αvβ8 associated disorder is selected from the group consisting of inflammatory bowel disease (IBD), chronic obstructive pulmonary disease (COPD), asthma, arthritis, hepatic fibrosis, a pulmonary fibrotic disorder, an inflammatory brain autoimmune disease, multiple sclerosis, a demyelinating disease, neuroinflammation, kidney disease, adenocarcinoma, squamous carcinoma, glioma, and breast carcinoma, and

wherein binding of the isolated antibody to the cell indicates that the individual has the αvβ8 associated disorder.

38. The method of claim 37, wherein the contacting is *in vivo*.

39. The method of claim 37, wherein the contacting is *in vitro*.

40. The method of any one of claims 37-39, wherein the wherein the αvβ8 associated disorder is inflammatory bowel disease.

41. The method of any one of claims 37-39, wherein the wherein the αvβ8 associated disorder is arthritis.

42. The method of any one of claims 37-39, wherein the wherein the αvβ8 associated disorder is hepatic fibrosis.

43. The method of any one of claims 37-39, wherein the wherein the αvβ8 associated disorder is asthma.

44. The method of any one of claims 37-39, wherein the wherein the αvβ8 associated disorder is chronic obstructive pulmonary disease (COPD) and/ or a fibrotic pulmonary disorder.

45. The method of any one of claims 37-44, further comprising administering to the individual the pharmaceutical composition of claim 8.

46. The method of claim 45, wherein the pharmaceutical composition comprises the isolated antibody of any one of claims 1-5.

47. The method of claim 45, wherein the pharmaceutical composition comprises the humanized antibody of claim 6.

48. An isolated antibody that specifically binds to αvβ8, wherein said antibody does not inhibit release of active, mature TGFβ peptide or adhesion of latent TGFβ to αvβ8 on a αvβ8-expressing cell, and wherein the antibody binds formalin-fixed αvβ8-expressing cells.

49. The isolated antibody of claim 48, wherein the antibody specifically binds to an epitope on on β8 that is within SEQ ID NO:14.

50. The isolated antibody of claim 48 or 49, linked to a detectable label.

51. The isolated antibody of any one of claims 48-50, wherein the antibody is humanized.

52. The isolated antibody of any one of claims 48-51, wherein the antibody is an scFv antibody.

53. The isolated antibody of any one of claims 48-52, wherein the antibody comprises:

heavy chain CDR sequences SEQ ID NO:40, SEQ ID NO:41, and SEQ ID NO:42 and light chain CDR sequences SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45;

heavy chain CDR sequences SEQ ID NO:40, SEQ ID NO:46, and SEQ ID NO:42 and light chain CDR sequences SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45;

heavy chain CDR sequences SEQ ID NO:116, SEQ ID NO:117, and SEQ ID NO:118 and light chain CDR sequences SEQ ID NO:119, SEQ ID NO:120, and SEQ ID NO:121.

54. A method for detecting the presence of a αvβ8-expressing cell comprising contacting a cell with the antibody of any one of claims 48-53, and determining whether the antibody binds to the cell, wherein antibody binding to the cell indicates the presence of an αvβ8-expressing cell.

55. The method of claim 54, wherein the contacting is *in vivo*.

56. The method of claim 54, wherein the contacting is *in vitro*.

57. A method of diagnosing an αvβ8 associated disorder in an individual, comprising

contacting a cell from the individual with the isolated antibody of any one of claims 48-53, and

detecting binding of the isolated antibody to the cell,

wherein the αvβ8 associated disorder is selected from the group consisting of inflammatory bowel disease (IBD), chronic obstructive pulmonary disease (COPD), asthma, arthritis, hepatic fibrosis, a pulmonary fibrotic disorder, an inflammatory brain autoimmune disease, multiple sclerosis, a demyelinating disease, neuroinflammation, kidney disease, adenocarcinoma, squamous carcinoma, glioma, and breast carcinoma, and

wherein binding of the isolated antibody to the cell indicates that the individual has the αvβ8 associated disorder.

58. The method of claim 57, wherein the contacting is *in vivo*.

59. The method of claim 57, wherein the contacting is *in vitro*.

60. The method of any one of claims 57-59, wherein the wherein the αvβ8 associated disorder is inflammatory bowel disease.

61. The method of any one of claims 57-59, wherein the wherein the αvβ8 associated disorder is arthritis.

62. The method of any one of claims 57-59, wherein the wherein the αvβ8 associated disorder is hepatic fibrosis.

63. The method of any one of claims 57-59, wherein the wherein the αvβ8 associated disorder is asthma.

64. The method of any one of claims 57-59, wherein the wherein the αvβ8 associated disorder is chronic obstructive pulmonary disease (COPD) and/ or a fibrotic pulmonary disorder.

65. The method of any one of claims 57-64, further comprising administering to the individual the pharmaceutical composition of claim 8.

66. The method of claim 65, wherein the pharmaceutical composition comprises the isolated antibody of any one of claims 1-5.

WHAT IS CLAIMED IS:

1. An isolated antibody that specifically binds αvβ8, wherein the antibody has a heavy chain variable region comprising SEQ ID NO:8 and a light chain variable region comprising SEQ ID NO:9.

2. The isolated antibody of claim 1 linked to a detectable label.

3. The isolated antibody of claim 1, wherein the isolated antibody is humanized.

4. A pharmaceutical composition comprising the isolated antibody of claim 1 in a pharmaceutically acceptable excipient.

5. A method of reducing TGFβ signaling in an individual, comprising administering the pharmaceutical composition of claim 4 to the individual, thereby reducing TGFβ signaling in the individual.

6. The method of claim 5, wherein the individual has at least one condition selected from the group consisting of inflammatory bowel disease (IBD), chronic obstructive pulmonary disease (COPD), asthma, and a pulmonary fibrotic disorder, and wherein reducing TGFβ signaling results in amelioration of the condition.

7. A method of detecting αvβ8 in a cell from an individual, comprising contacting the cell from the individual with the isolated antibody of claim 1, and detecting binding of the isolated antibody to the cell.

8. The isolated or humanized antibody of claim 1, wherein the antibody is an scFv antibody.

9. The method of claim 7, wherein the cells are fibroblasts, chondrocytes, or hepatic stellate cells.