WHAT IS CLAIMED IS:

1. An antibody or antigen-binding fragment thereof that specifically binds to an epitope of FOLR1, wherein said epitope comprises at least one, at least two, or three N-glycosylated amino acids.

2. An antibody or antigen-binding fragment thereof that specifically binds to the same FOLR1 epitope as an antibody selected from the group consisting of:

(a) an antibody comprising the polypeptide of SEQ ID NO:27 and the polypeptide of SEQ ID NO:28;

(b) an antibody comprising the polypeptide of SEQ ID NO:29 and the polypeptide of SEQ ID NO:30;

(c) an antibody comprising the polypeptide of SEQ ID NO:31 and the polypeptide of SEQ ID NO:32;

(d) an antibody comprising the polypeptide of SEQ ID NO:62 and the polypeptide of SEQ ID NO:63 or SEQ ID NO:64; and

(e) an antibody comprising the polypeptide of SEQ ID NO:65 and the polypeptide of SEQ ID NO:66 or SEQ ID NO:67.

3. The antibody or antigen-binding fragment of claim 2, wherein the epitope comprises an N-glycosylated amino acid.

4. An antibody or antigen-binding fragment thereof that specifically binds to FOLR1, wherein said antibody or fragment thereof competitively inhibits binding to FOLR1 of an antibody selected from the group consisting of:

(a) an antibody comprising the polypeptide of SEQ ID NO:27 and the polypeptide of SEQ ID NO:28;

(b) an antibody comprising the polypeptide of SEQ ID NO:29 and the polypeptide of SEQ ID NO:30;

(c) an antibody comprising the polypeptide of SEQ ID NO:31 and the polypeptide of SEQ ID NO:32;

(d) an antibody comprising the polypeptide of SEQ ID NO:62 and the polypeptide of SEQ ID NO:63 or SEQ ID NO:64; and

(e) an antibody comprising the polypeptide of SEQ ID NO:65 and the polypeptide of SEQ ID NO:66 or SEQ ID NO:67.

5. The antibody or antigen-binding fragment thereof of any one of claims 1-4, wherein the antibody or fragment thereof comprises the VH CDR1-3 and VL CDR1-3 polypeptide sequences selected from the group consisting of:

(a) SEQ ID NOs:3-8, respectively;

(b) SEQ ID NOs:9-14, respectively;

(c) SEQ ID NOs:15-20, respectively;

(d) SEQ ID NOs:21-26, respectively;

(e) SEQ ID NOs: 3-5 and SEQ ID NOs: 59, 7, and 8, respectively;

(f) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 6-8, respectively;

(g) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 6-8, respectively;

(h) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 59, 7, and 8, respectively; and

(i) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 59, 7, and 8, respectively.

6. The antibody or antigen-binding fragment thereof of any one of claims 1-5, wherein the antibody or fragment thereof comprises polypeptide sequences that are at least 90% identical, at least 95% identical, or at least 99% identical to polypeptide sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67;

(f) SEQ ID NO:68 and SEQ ID NO:69.

7. The antibody or antigen-binding fragment thereof of claim 6, wherein the polypeptide sequences comprise the amino acids of sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67;

(f) SEQ ID NO:68 and SEQ ID NO:69.

8. An antibody or antigen-binding fragment thereof that specifically binds to FOLR1, wherein the antibody or fragment thereof comprises

a humanized heavy chain variable region comprising CDR1, CDR2, and CDR3 regions comprising the amino acids of SEQ ID NO:51, SEQ ID NO:52 or 53, and SEQ ID NO:54, respectively,

a humanized light chain variable region comprising CDR1, CDR2, and CDR3 regions comprising the amino acids of SEQ ID NO:48, SEQ ID NO:49, and SEQ ID NO:50, respectively, and

a murine constant region.

9. The antibody or antigen-binding fragment thereof claim 8, wherein the humanized heavy chain variable region comprises the amino acids of SEQ ID NO:45 and the humanized light chain variable region comprises the amino acids of SEQ ID NO:47.

10. The antibody or antigen-binding fragment thereof of any one of claims 1-9, wherein the antibody is recombinantly produced.

11. The antibody or antigen-binding fragment thereof of any one of claims 1-10, wherein said antibody or antigen-binding fragment thereof is murine, non-human, humanized, chimeric, resurfaced, or human.

12. The antibody or antigen-binding fragment thereof of any one of claims 1-11, wherein said antibody binds to human FOLR1 but not FOLR2 or FOLR3.

13. The antibody or antigen-binding fragment thereof of any one of claims 1-12, which is a full length antibody.

14. The antibody or antigen-binding fragment thereof of any one of claims 1-13, which is an antigen-binding fragment.

15. A polypeptide that specifically binds FOLR1, wherein said polypeptide comprises sequences selected from the group consisting of:

(a) SEQ ID NOs:3-8, respectively;

(b) SEQ ID NOs:9-14, respectively;

(c) SEQ ID NOs:15-20, respectively;

(d) SEQ ID NOs:21-26, respectively;

(e) SEQ ID NOs: 3-5 and SEQ ID NOs: 59, 7, and 8, respectively;

(f) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 6-8, respectively;

(g) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 6-8, respectively

(h) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 59, 7, and 8, respectively;

(i) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 59, 7, and 8, respectively;

and

(j) variants of (a) to (i) comprising 1, 2, 3, or 4 conservative amino acid substitutions.

16. The polypeptide of claim 20, wherein said polypeptide comprises sequences that are at least 90% identical, at least 95% identical, or at least 99% identical to sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67; and

(f) SEQ ID NO:68 and SEQ ID NO:69.

17. The polypeptide of claim 16, wherein the sequences comprise the amino acids of sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67; and

(f) SEQ ID NO:68 and SEQ ID NO:69.

18. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claim 1-17, which binds to a human folate receptor 1 with a Kd of about 0.5 to about 10 nM.

19. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-18, which binds to a human folate receptor 1 with a Kd of about 1.0 nM or better.

20. The antibody or fragment thereof or polypeptide of any one of claims 4-7 or 10-19, wherein the antibody, fragment, or polypeptide binds to an epitope of FOLR1 comprising an amino acid that is N-glycosylated.

21. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-20, wherein the antibody, antigen-binding fragment thereof, or polypeptide is detectably labeled.

22. An cell producing the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21.

23. A method of making the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21, comprising (a) culturing the cell of claim 22; and (b) isolating said antibody, antigen-binding fragment thereof, or polypeptide from said cultured cell.

24. A composition comprising the antibody, antigen-binding fragment thereof or polypeptide of any one of claims 1-21 and buffer selected from the group consisting of: a FACS buffer, an IHC buffer, and an ELISA buffer.

25. A method of detecting FOLR1 expression in a sample comprising contacting said sample with an antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24.

26. The method of claim 25, wherein said antibody or antigen-binding fragment thereof is detectably labeled.

27. The method of claim 26, wherein said label is selected from the group consisting of immunofluorescent label, chemiluminescent label, phosphorescent label, enzyme label, radiolabel, avidin/biotin, colloidal gold particles, colored particles and magnetic particles.

28. The method of any one of claims 25-27, wherein FOLR1 expression is determined by radioimmunoassay, Western blot assay, cytometry, immunofluorescent assay, enzyme immunoassay, immunoprecipitation assay, chemiluminescent assay, or immunohistochemical assay.

29. The method of claim 28, wherein the cytometry is flow cytometry.

30. The method of claim 28, wherein FOLR1 expression is determined by IHC.

31. A method for increasing the efficacy of cancer therapy with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof, said method comprising administering the active agent to a subject having cancer, wherein increased expression of FOLR1 has been detected in a cancerous sample from said subject using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24.

32. A method for identifying a cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof, said method comprising:

(a) contacting a biological sample comprising cells from said cancer with the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24;

(b) detecting binding of said antibody, antibody-fragment, or polypeptide to FOLR1 in said biological sample of (a);

(c) assigning a score to said binding of step (b), wherein said score is assigned based on comparison to one or more reference samples; and

(d) comparing said score in step (c) to the score of a reference tissue or cell, wherein a score for said cancer FOLR1 level that is greater than the score for a normal or low FOLR1 expressing reference sample or a score for said cancer FOLR1 level that is equal to or greater than the score for a high FOLR1 expressing reference sample identifies said cancer as likely to respond to an anti-FOLR1 antibody.

33. A method of treating a patient having cancer, said method comprising:

(a) determining a FOLR1 expression score from a detection of FOLR1 expression in a cancerous sample obtained from the patient, wherein the detection is performed using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) administering an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof to the patient if the score indicates the patient will benefit from administration of the active agent.

34. A method of treating a patient having cancer, said method comprising:

(a) submitting a cancerous sample taken from a patient having cancer for determining a FOLR1 expression score from a detection of FOLR1 expression using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) administering an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof to the patient if the score indicates the patient will benefit from administration of the active agent.

35. A method of treating a patient having cancer, said method comprising:

(a) detecting FOLR1 expression in a cancerous sample obtained from said patient, wherein the detection is performed using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24;

(b) determining a FOLR1 expression score for said cancerous sample; and

(c) administering an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof to the patient if the score indicates the patient will benefit from administration of the active agent.

36. A method of decreasing FOLR1-expressing cancer cells in a cancer patient comprising:

(a) detecting the FOLR1 level in a cancerous sample taken from a patient, compared to the FOLR1 level in a reference sample using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) administering to the patient a fixed dose of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof if the patient's FOLR1 level is elevated compared to the reference sample;

wherein the administration of the active agent decreases the number of FOLR1-expressing cancer cells in the patient.

37. A method of identifying a cancer as sensitive to treatment with an anti-FOLR1 active agent, said method comprising:

(a) detecting the level of FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, wherein said detecting comprises the use of a method that distinguishes between staining intensity or staining uniformity in a FOLR1 expressing cancerous sample as compared to staining intensity or staining uniformity in one or more reference samples;

(b) determining a FOLR1 staining intensity or staining uniformity score for said cancerous sample; and

(c) comparing the FOLR1 staining intensity or staining uniformity score determined in step (b) to a relative value determined by measuring FOLR1 protein expression in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is not sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 staining intensity score for said cancerous sample determined in step (b) that is higher than said relative value identifies said cancer as being sensitive to treatment with the active agent.

38. A method of identifying a cancer as sensitive to treatment with an anti-FOLR1 active agent, said method comprising:

(a) detecting the level of membrane FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, as compared to membrane FOLR1 in one or more reference samples;

(b) determining a FOLR1 score for said cancerous sample; and

(c) comparing the FOLR1 score determined in step (b) to a relative value determined by measuring membrane FOLR1 in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is not sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 score for said cancerous sample determined in step (b) that is higher than said relative value identifies said cancer as being sensitive to treatment with the active agent.

39. A method of identifying a cancer as sensitive to treatment with an anti-FOLR1 active agent, said method comprising:

(a) detecting the level of FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, wherein said detecting comprises the use of a method that distinguishes between staining intensity or staining uniformity in a FOLR1 expressing cancerous sample as compared to staining intensity or staining uniformity in one or more reference samples;

(b) determining a FOLR1 staining intensity or staining uniformity score for said cancerous sample; and

(c) comparing the FOLR1 staining intensity or staining uniformity score determined in step (b) to a relative value determined by measuring FOLR1 protein expression in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 staining intensity score for said cancerous sample determined in step (b) that is greater than or equal to said relative value identifies said cancer as being sensitive to treatment with the active agent.

40. A method of identifying a cancer as sensitive to treatment with an anti-FOLR1 active agent, said method comprising:

(a) detecting the level of membrane FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, compared to membrane FOLR1 one or more reference samples;

(b) determining a FOLR1 score for said cancerous sample; and

(c) comparing the FOLR1 score determined in step (b) to a relative value determined by measuring membrane FOLR1 in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 score for said cancerous sample determined in step (b) that is greater than or equal to said relative value identifies said cancer as being sensitive to treatment with the active agent.

41. The method of any one of claims 32 or 37-40, further comprising administering an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof to the subject from whom the cancerous sample or biological sample was obtained.

42. The method of any one of claims 31 or 33-41, wherein said cancerous sample or biological sample is a bodily fluid, cell, or tissue sample.

43. The method of claim 42, wherein said cell is a circulating tumor cell.

44. The method of claim 42, wherein said bodily fluid is blood, ascites, urine, plasma, serum, or peripheral blood.

45. The method of any one of claims 25-37, 39, and 41-44, wherein the FOLR1 is membrane FOLR1.

46. The method of any one of claims 25-36, 41, 42, or 44, wherein the FOLR1 is shed FOLR1.

47. The method of any one of claims 25-28, 31-36, or 41-46, wherein the detecting is by enzyme linked immunosorbent assay (ELISA).

48. The method of any one of claims 25-28, or 30-42, or 45, wherein the detecting is by immunohistochemistry (IHC).

49. The method of claim 48, wherein said IHC is calibrated IHC that can distinguish different levels of FOLR1 expression.

50. The method of claim 48 or 49, wherein said IHC produces a range of staining intensity for samples having low cell surface FOLR1 expression, intermediate FOLR1 cell surface expression, or high FOLR1 cell surface expression.

51. The method of any one of claims 48-50, wherein said IHC distinguishes between staining intensity and staining uniformity in a FOLR1 expressing cancerous sample or biological sample as compared to a reference sample.

52. The method of any one of claims 48-51, wherein the IHC is performed manually.

53. The method of any one of claims 48-51, wherein the IHC is performed using an automated system.

54. The method of any one of claims 48-53, wherein a FOLR1 score is determined from the IHC.

55. The method of claim 54, wherein a score of at least 2 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

56. The method of claim 54, wherein a score of at least 2 homo identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

57. The method of claim 54, wherein a score of at least 2 hetero identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

58. The method of any one of claims 55-57, wherein the cancer is lung cancer or endometrial cancer.

59. The method of claim 54, wherein a score of at least 3 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

60. The method of claim 54, wherein a score of at least 3 homo identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

61. The method of claim 54, wherein a score of at least 3 hetero identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding

fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

62. The method of any one of claims 59-61, wherein the cancer is lung cancer, endometrial cancer, or ovarian cancer.

63. The method of claim 54, wherein an H-score of at least 50 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

64. The method of claim 63, wherein the cancer is ovarian cancer and an H-score of at least 75 identifies the ovarian cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

65. The method of claim 63, wherein the cancer is NSCLC or endometrial cancer and an H-score of at least 50 identifies the NSCLC or endometrial cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

66. The method of claim 54, wherein the cancer is ovarian cancer, and wherein at least 25% of FOLR1 membrane expression with an intensity of at least 3 identifies the ovarian cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

67. The method of claim 54, wherein the cancer is NSCLC or endometrial cancer, and wherein at least 25% of FOLR1 membrane expression with an intensity of at least 2 identifies the NSCLC or endometrial cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

68. The method of any one of claims 32 and 36-67, wherein said reference sample is a positive reference sample or a negative reference sample.

69. The method of any one of claims 32 and 36-68, wherein the reference sample comprises cells, cell pellets, or tissue.

70. The method of any one of claims 31-69, wherein the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21, further comprises a detection reagent selected from the group consisting of: an enzyme, a fluorophore, a radioactive label, and a luminophore.

71. The method of claim 70, wherein said detection reagent is selected from the group consisting of: biotin, digoxigenin, fluorescein, tritium, and rhodamine.

72. The method of any one of claims 31-71, wherein said cancer is a FOLR1 positive cancer.

73. The method of any one of claims 31-72, wherein said cancer is selected from the group consisting of ovarian, brain, breast, uterine, endometrial, pancreatic, renal, and lung cancer.

74. The method of claim 73, wherein the lung cancer is non small cell lung cancer or bronchioloalveolar carcinoma.

75. The method of claim 73, wherein the ovarian cancer is epithelial ovarian cancer.

76. The method of claim 75, wherein the cancer is platinum resistant, relapsed, or refractory.

77. The method of any one of claims 31-76, wherein said FOLR1 expression is detected using at least one additional anti-FOLR1 antibody or antigen-binding fragment thereof.

78. The method of claim 77, wherein said FOLR1 expression is measured using two anti-FOLR1 antibodies or antigen-binding fragments thereof.

79. The method of claim 77 or 78, wherein at least one antibody or antigen-binding fragment thereof is bound to a solid support.

80. The method of claim 77 or 78, wherein at least one antibody or antigen-binding fragment thereof is bound to a microtiter plate.

81. The method of any one of claims 77-80, wherein at least one additional antibody or antigen-binding fragment thereof comprises a detection agent.

82. The method of claim 81, wherein the detection agent is a chromogenic detection agent, a fluorogenic detection agent, an enzymatic detection agent, or an electrochemiluminescent detection agent.

83. The method of claim 81 or 82, wherein the detection agent is horseradish peroxidase (HRP).

84. The method of claim 47, wherein said ELISA is a sandwich ELISA.

85. The method of any one of claims 31-84, wherein the active agent comprises the FOLR1 antibody huMov19.

86. The method of claim 85, wherein the active agent is an antibody maytansinoid conjugate comprising the FOLR1 antibody huMov19, the maytansinoid DM4, and the cleavable sulfo-SPDB linker (IMGN853).

87. A method for identifying a cancer as likely to respond to treatment with an antibody maytansinoid conjugate comprising the FOLR1 antibody huMov19, the maytansinoid DM4 and a sulfo-SPDB linker (IMGN853), wherein the method comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein a score of at least 2 hetero indicates the cancer is likely to responds to the treatment.

88. A method for identifying a cancer as likely to respond to treatment with an antibody maytansinoid conjugate comprising the FOLR1 antibody huMov19, the maytansinoid DM4 and a sulfo-SPDB linker (IMGN853), wherein the method comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein an H-score of at least 50 indicates the cancer is likely to responds to the treatment.

89. A method for identifying a cancer as likely to respond to treatment with an antibody maytansinoid conjugate comprising the FOLR1 antibody huMov19, the maytansinoid DM4 and a sulfo-SPDB linker (IMGN853), wherein the method comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein at least 25% of FOLR1 membrane expression with an intensity of at least 2 indicates the cancer is likely to responds to the treatment.

WHAT IS CLAIMED IS:

1. An antibody or antigen-binding fragment thereof that specifically binds to an epitope of FOLR1, wherein said epitope comprises at least one, at least two, or three N-glycoslated amino acids.

2. An antibody or antigen-binding fragment thereof that specifically binds to the same FOLR1 epitope as an antibody selected from the group consisting of:

   (a) an antibody comprising the polypeptide of SEQ ID NO:27 and the polypeptide of SEQ ID NO:28;

   (b) an antibody comprising the polypeptide of SEQ ID NO:29 and the polypeptide of SEQ ID NO:30;

   (c) an antibody comprising the polypeptide of SEQ ID NO:31 and the polypeptide of SEQ ID NO:32;

   (d) an antibody comprising the polypeptide of SEQ ID NO:62 and the polypeptide of SEQ ID NO:63 or SEQ ID NO:64; and

   (e) an antibody comprising the polypeptide of SEQ ID NO:65 and the polypeptide of SEQ ID NO:66 or SEQ ID NO:67.

3. The antibody or antigen-binding fragment thereof of claim 2, wherein the epitope comprises an N-glycosylated amino acid.

4. An antibody or antigen-binding fragment thereof that specifically binds to FOLR1, wherein said antibody or fragment thereof competitively inhibits binding to FOLR1 of an antibody selected from the group consisting of:

   (a) an antibody comprising the polypeptide of SEQ ID NO:27 and the polypeptide of SEQ ID NO:28;

   (b) an antibody comprising the polypeptide of SEQ ID NO:29 and the polypeptide of SEQ ID NO:30;

(c) an antibody comprising the polypeptide of SEQ ID NO:31 and the polypeptide of SEQ ID NO:32;

(d) an antibody comprising the polypeptide of SEQ ID NO:62 and the polypeptide of SEQ ID NO:63 or SEQ ID NO:64; and

(e) an antibody comprising the polypeptide of SEQ ID NO:65 and the polypeptide of SEQ ID NO:66 or SEQ ID NO:67.

5. The antibody or antigen-binding fragment thereof of any one of claims 1-4, wherein the antibody or fragment thereof comprises the VH CDR1-3 and VL CDR1-3 polypeptide sequences selected from the group consisting of:

(a) SEQ ID NOs:3-8, respectively;

(b) SEQ ID NOs:9-14, respectively;

(c) SEQ ID NOs:15-20, respectively;

(d) SEQ ID NOs:21-26, respectively;

(e) SEQ ID NOs: 3-5 and SEQ ID NOs: 59, 7, and 8, respectively;

(f) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 6-8, respectively;

(g) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 6-8, respectively;

(h) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 59, 7, and 8, respectively; and

(i) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 59, 7, and 8, respectively.

6. The antibody or antigen-binding fragment thereof of any one of claims 1-5, wherein the antibody or fragment thereof comprises polypeptide sequences that are at least 90% identical, at least 95% identical, or at least 99% identical to polypeptide sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67;

(f) SEQ ID NO:68 and SEQ ID NO:69.

7. The antibody or antigen-binding fragment thereof of claim 6, wherein the polypeptide sequences comprise the amino acids of sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67;

(f) SEQ ID NO:68 and SEQ ID NO:69.

8. An antibody or antigen-binding fragment thereof that specifically binds to FOLR1, wherein the antibody or fragment thereof comprises

a humanized heavy chain variable region comprising CDR1, CDR2, and CDR3 regions comprising the amino acids of SEQ ID NO:51, SEQ ID NO:52 or 53, and SEQ ID NO:54, respectively,

a humanized light chain variable region comprising CDR1, CDR2, and CDR3 regions comprising the amino acids of SEQ ID NO:48, SEQ ID NO:49, and SEQ ID NO:50, respectively, and

a murine constant region.

9. The antibody or antigen-binding fragment thereof of claim 8, wherein the humanized heavy chain variable region comprises the amino acids of SEQ ID NO:45 and the humanized light chain variable region comprises the amino acids of SEQ ID NO:47.

10. The antibody or antigen-binding fragment thereof of any one of claims 1-9, wherein the antibody is recombinantly produced.

11. The antibody or antigen-binding fragment thereof of any one of claims 1-10, wherein said antibody or antigen-binding fragment thereof is murine, non-human, humanized, chimeric, resurfaced, or human.

12. The antibody or antigen-binding fragment thereof of any one of claims 1-11, wherein said antibody binds to human FOLR1 but not FOLR2 or FOLR3.

13. The antibody or antigen-binding fragment thereof of any one of claims 1-12, which is a full length antibody.

14. The antibody or antigen-binding fragment thereof of any one of claims 1-13, which is an antigen-binding fragment.

15. A polypeptide that specifically binds FOLR1, wherein said polypeptide comprises sequences selected from the group consisting of:

(a) SEQ ID NOs:3-8, respectively;

(b) SEQ ID NOs:9-14, respectively;

(c) SEQ ID NOs:15-20, respectively;

(d) SEQ ID NOs:21-26, respectively;

(e) SEQ ID NOs: 3-5 and SEQ ID NOs: 59, 7, and 8, respectively;

(f) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 6-8, respectively;

(g) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 6-8, respectively

(h) SEQ ID NOs: 3, 60, and 5 and SEQ ID NOs: 59, 7, and 8, respectively;

(i) SEQ ID NOs: 3, 61, and 5 and SEQ ID NOs: 59, 7, and 8, respectively;

and

(j) variants of (a) to (i) comprising 1, 2, 3, or 4 conservative amino acid substitutions.

16. The polypeptide of claim 20, wherein said polypeptide comprises sequences that are at least 90% identical, at least 95% identical, or at least 99% identical to sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67; and

(f) SEQ ID NO:68 and SEQ ID NO:69.

17. The polypeptide of claim 16, wherein the sequences comprise the amino acids of sequences selected from the group consisting of:

(a) SEQ ID NO:27 and SEQ ID NO:28;

(b) SEQ ID NO:29 and SEQ ID NO:30;

(c) SEQ ID NO:31 and SEQ ID NO:32;

(d) SEQ ID NO:62 and SEQ ID NO:63 or SEQ ID NO:64;

(e) SEQ ID NO:65 and SEQ ID NO:66 or SEQ ID NO:67; and

(f) SEQ ID NO:68 and SEQ ID NO:69.

18. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claim 1-17, which binds to a human folate receptor 1 with a Kd of about 0.5 to about 10 nM.

19. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-18, which binds to a human folate receptor 1 with a Kd of about 1.0 nM or better.

20. The antibody or fragment thereof or polypeptide of any one of claims 4-7 or 10-19, wherein the antibody, fragment, or polypeptide binds to an epitope of FOLR1 comprising an amino acid that is N-glycosylated.

21. The antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-20, wherein the antibody, antigen-binding fragment thereof, or polypeptide is detectably labeled.

22. A cell producing the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21.

23. A method of making the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21, comprising (a) culturing the cell of claim 22; and (b) isolating said antibody, antigen-binding fragment thereof, or polypeptide from said cultured cell.

24. A composition comprising the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 and buffer selected from the group consisting of: a FACS buffer, an IHC buffer, and an ELISA buffer.

25. An *in vitro* method of detecting FOLR1 expression in a sample comprising contacting said sample with an antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24.

26. The method of claim 25, wherein said antibody or antigen-binding fragment thereof is detectably labeled.

27. The method of claim 26, wherein said label is selected from the group consisting of immunofluorescent label, chemiluminescent label, phosphorescent label, enzyme label, radiolabel, avidin/biotin, colloidal gold particles, colored particles and magnetic particles.

28. The method of any one of claims 25-27, wherein FOLR1 expression is determined by radioimmunoassay, Western blot assay, cytometry, immunofluorescent assay, enzyme immunoassay, immunoprecipitation assay, chemiluminescent assay, or immunohistochemical assay.

29. The method of claim 28, wherein the cytometry is flow cytometry.

30. The method of claim 28, wherein FOLR1 expression is determined by IHC.

31. An active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof for use in increasing the efficacy of cancer treatment in a patient, wherein the active agent is to be administered to a subject having cancer, wherein increased expression of FOLR1 has been detected in a cancerous sample from said subject using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24.

32. A method for identifying a cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof, said method comprising:

(a) contacting an *in vitro* biological sample comprising cells from said cancer with the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24;

(b) detecting binding of said antibody, antibody-fragment, or polypeptide to FOLR1 in said biological sample of (a);

(c) assigning a score to said binding of step (b), wherein said score is assigned based on comparison to one or more reference samples; and

(d) comparing said score in step (c) to the score of a reference tissue or cell, wherein a score for said cancer FOLR1 level that is greater than the score for a normal or low FOLR1 expressing reference sample or a score for said cancer FOLR1 level that is equal to or greater than the score for a high FOLR1 expressing reference sample identifies said cancer as likely to respond to an anti-FOLR1 antibody.

33. An active agent comprising an antibody or antigen-binding fragment thereof for use in treating a patient with cancer, wherein the treatment comprises:

(a) determining a FOLR1 expression score from a detection of FOLR1 expression in a cancerous sample obtained from the patient, wherein the detection is performed using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) wherein the active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof is to be administered to the patient if the score indicates the patient will benefit from administration of the active agent.

34. An active agent comprising an antibody or antigen-binding fragment thereof for use in treating a patient with cancer, wherein the treatment comprises:

(a) submitting a cancerous sample taken from a patient having cancer for determining a FOLR1 expression score from a detection of FOLR1 expression using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) wherein the active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof is to be administered to the patient if the score indicates the patient will benefit from administration of the active agent.

35. An active agent comprising an antibody or antigen-binding fragment thereof for use in treating a patient with cancer, wherein the treatment comprises:

(a) detecting FOLR1 expression in a cancerous sample obtained from said patient, wherein the detection is performed using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24;

(b) determining a FOLR1 expression score for said cancerous sample; and

(c) wherein the active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof is to be administered to the patient if the score indicates the patient will benefit from administration of the active agent.

36. An active agent comprising an antibody or antigen-binding fragment thereof for a method of decreasing FOLR1-expressing cancer cells in a cancer patient, wherein the method comprises:

(a) detecting the FOLR1 level in a cancerous sample taken from a patient, compared to the FOLR1 level in a reference sample using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24; and

(b) wherein a fixed dose of the active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof is to be administered to the patient if the patient's FOLR1 level is elevated compared to the reference sample;

wherein the administration of the active agent decreases the number of FOLR1-expressing cancer cells in the patient.

37. An anti-FOLR1 active agent comprising an antibody or antigen-binding fragment thereof for identifying a cancer as sensitive to treatment, said identifying comprising:

(a) detecting the level of FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, wherein said detecting comprises the use of a method that distinguishes between staining intensity or staining uniformity in a FOLR1 expressing cancerous sample as compared to staining intensity or staining uniformity in one or more reference samples;

(b) determining a FOLR1 staining intensity or staining uniformity score for said cancerous sample; and

(c) comparing the FOLR1 staining intensity or staining uniformity score determined in step (b) to a relative value determined by measuring FOLR1 protein expression in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is not sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 staining intensity score for said cancerous sample determined in step (b) that is higher than said relative value identifies said cancer as being sensitive to treatment with the active agent.

38. An anti-FOLR1 active agent comprising an antibody or antigen-binding fragment thereof for identifying a cancer as sensitive to treatment, said identifying comprising:

(a) detecting the level of membrane FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, as compared to membrane FOLR1 in one or more reference samples;

(b) determining a FOLR1 score for said cancerous sample; and

(c) comparing the FOLR1 score determined in step (b) to a relative value determined by measuring membrane FOLR1 in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is not sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 score for said cancerous sample determined in step (b) that is higher than said relative value identifies said cancer as being sensitive to treatment with the active agent.

39. An anti-FOLR1 active agent comprising an antibody or antigen-binding fragment thereof for identifying a cancer as sensitive to treatment, said identifying comprising:

(a) detecting the level of FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, wherein said detecting comprises the use of a method that distinguishes between staining intensity or staining uniformity in a FOLR1 expressing cancerous sample as compared to staining intensity or staining uniformity in one or more reference samples;

(b) determining a FOLR1 staining intensity or staining uniformity score for said cancerous sample; and

(c) comparing the FOLR1 staining intensity or staining uniformity score determined in step (b) to a relative value determined by measuring FOLR1 protein expression in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 staining intensity score for said cancerous sample determined in step (b) that is greater than or equal to said relative value identifies said cancer as being sensitive to treatment with the active agent.

40. An anti-FOLR1 active agent comprising an antibody or antigen-binding fragment thereof for identifying a cancer as sensitive to treatment, said identifying comprising:

(a) detecting the level of membrane FOLR1 expression in a cancerous sample from said cancer using the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21 or the composition of claim 24, compared to membrane FOLR1 one or more reference samples;

(b) determining a FOLR1 score for said cancerous sample; and

(c) comparing the FOLR1 score determined in step (b) to a relative value determined by measuring membrane FOLR1 in at least one reference sample, wherein said at least one reference sample is a tissue, cell, or cell pellet sample which is sensitive to treatment with an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof and wherein a FOLR1 score for said cancerous sample determined in step (b) that is greater than or equal to said relative value identifies said cancer as being sensitive to treatment with the active agent.

41. The active agent of any one of claims 32 or 37-40, wherein an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof is to be administered to the subject from whom the cancerous sample or biological sample was obtained.

42. The active agent of any one of claims 31 or 33-41, wherein said cancerous sample or biological sample is a bodily fluid, cell, or tissue sample.

43. The active agent of claim 42, wherein said cell is a circulating tumor cell.

44. The active agent of claim 42, wherein said bodily fluid is blood, ascites, urine, plasma, serum, or peripheral blood.

45. The active agent of any one of claims 25-37, 39, and 41-44, wherein the FOLR1 is membrane FOLR1.

46. The active agent of any one of claims 25-36, 41, 42, or 44, wherein the FOLR1 is shed FOLR1.

47. The active agent of any one of claims 25-28, 31-36, or 41-46, wherein the detecting is by enzyme linked immunosorbent assay (ELISA).

48. The active agent of any one of claims 25-28, or 30-42, or 45, wherein the detecting is by immunohistochemistry (IHC).

49. The use of claim 48, wherein said IHC is calibrated IHC that can distinguish different levels of FOLR1 expression.

50. The active agent of claim 48 or 49, wherein said IHC produces a range of staining intensity for samples having low cell surface FOLR1 expression, intermediate FOLR1 cell surface expression, or high FOLR1 cell surface expression.

51. The active agent of any one of claims 48-50, wherein said IHC distinguishes between staining intensity and staining uniformity in a FOLR1 expressing cancerous sample or biological sample as compared to a reference sample.

52. The use of any one of claims 48-51, wherein the IHC is performed manually.

53. The active agent of any one of claims 48-51, wherein the IHC is performed using an automated system.

54. The active agent of any one of claims 48-53, wherein a FOLR1 score is determined from the IHC.

55. The active agent of claim 54, wherein a score of at least 2 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

56. The active agent of claim 54, wherein a score of at least 2 homo identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

57. The active agent of claim 54, wherein a score of at least 2 hetero identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding

fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

58. The active agent of one of claims 55-57, wherein the cancer is lung cancer or endometrial cancer.

59. The active agent of claim 54, wherein a score of at least 3 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

60. The active agent of claim 54, wherein a score of at least 3 homo identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

61. The active agent of claim 54, wherein a score of at least 3 hetero identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

62. The active agent of any one of claims 59-61, wherein the cancer is lung cancer, endometrial cancer, or ovarian cancer.

63. The active agent of claim 54, wherein an H-score of at least 50 identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

64. The active agent of claim 63, wherein the cancer is ovarian cancer and an H-score of at least 75 identifies the ovarian cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

65. The active agent of claim 63, wherein the cancer is NSCLC or endometrial cancer and an H-score of at least 50 identifies the NSCLC or endometrial cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

66. The active agent of claim 54, wherein the cancer is ovarian cancer, and wherein at least 25% of FOLR1 membrane expression with an intensity of at least 3 identifies the ovarian cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

67. The active agent of claim 54, wherein a score of 2 or greater in 25-75% of cells of identifies the cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

68. The active agent of claim 54, wherein the cancer is NSCLC or endometrial cancer, and wherein at least 25% of FOLR1 membrane expression with an intensity of at least 2 identifies the NSCLC or endometrial cancer as likely to respond to an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof or indicates that the patient will benefit from administration of an active agent comprising an anti-FOLR1 antibody or antigen-binding fragment thereof.

69. The active agent of any one of claims 32 and 36-68, wherein said reference sample is a positive reference sample or a negative reference sample.

70. The active agent of any one of claims 32 and 36-69, wherein the reference sample comprises cells, cell pellets, or tissue.

71. The active agent of any one of claims 31-70, wherein the antibody, antigen-binding fragment thereof, or polypeptide of any one of claims 1-21, further comprises a detection reagent selected from the group consisting of: an enzyme, a fluorophore, a radioactive label, and a luminophore.

72. The active agent of claim 71, wherein said detection reagent is selected from the group consisting of: biotin, digoxigenin, fluorescein, tritium, and rhodamine.

73. The active agent of any one of claims 31-72, wherein said cancer is a FOLR1 positive cancer.

74. The active agent of any one of claims 31-72, wherein said cancer is selected from the group consisting of ovarian, brain, breast, uterine, endometrial, pancreatic, renal, and lung cancer.

75. The active agent of claim 74, wherein the lung cancer is non small cell lung cancer or bronchioloalveolar carcinoma.

76. The active agent of claim 74, wherein the ovarian cancer is epithelial ovarian cancer.

77. The active agent of claim 76, wherein the cancer is platinum resistant, relapsed, or refractory.

78. The active agent of any one of claims 31-77, wherein said FOLR1 expression is detected using at least one additional anti-FOLR1 antibody or antigen-binding fragment thereof.

79. The active agent of claim 78, wherein said FOLR1 expression is measured using two anti-FOLR1 antibodies or antigen-binding fragments thereof.

80. The active agent of claim 78 or 79, wherein at least one antibody or antigen-binding fragment thereof is bound to a solid support.

81. The active agent of claim 78 or 79, wherein at least one antibody or antigen-binding fragment thereof is bound to a microtiter plate.

82. The active agent of any one of claims 78-81, wherein at least one additional antibody or antigen-binding fragment thereof comprises a detection agent.

83. The active agent of claim 82, wherein the detection agent is a chromogenic detection agent, a fluorogenic detection agent, an enzymatic detection agent, or an electrochemiluminescent detection agent.

84. The active agent of claim 82 or 83, wherein the detection agent is horseradish peroxidase (HRP).

85. The active agent of claim 47, wherein said ELISA is a sandwich ELISA.

86. The active agent of any one of claims 31-85, wherein the active agent comprises a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47.

87. The use of claim 86, wherein the active agent is an antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4, and the cleavable sulfo-SPDB linker.

88. An antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4 and a sulfo-SPDB linker for identifying a cancer as likely to respond to treatment, wherein the treatment comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein a score of at least 2 hetero indicates the cancer is likely to responds to the treatment.

89. An antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4 and a sulfo-SPDB linker for identifying a cancer as likely to respond to treatment, wherein the treatment comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein a score of at least 2 in 25-75% of cells indicates the cancer is likely to responds to the treatment.

90. An antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4 and a sulfo-SPDB linker for identifying a cancer as likely to respond to treatment, wherein the treatment comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein an H-score of at least 50 indicates the cancer is likely to responds to the treatment.

91. An antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4 and a sulfo-SPDB linker for identifying a cancer as likely to respond to treatment, wherein the treatment comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein at least 25% of FOLR1 membrane expression with an intensity of at least 2 indicates the cancer is likely to responds to the treatment.

92. An antibody maytansinoid conjugate comprising a FOLR1 antibody comprising a heavy chain variable region of SEQ ID NO:45 and a light chain variable region of SEQ ID NO:47, the maytansinoid DM4 and a sulfo-SPDB linker for identifying a cancer as likely to respond to treatment, wherein the treatment comprises measuring FOLR1 using an antibody comprising a heavy chain comprising the amino acids of SEQ ID NO:27 and a light chain comprising the amino acids of SEQ ID NO:28 in an IHC assay, wherein at least 25% of FOLR1 membrane expression with an intensity of at least 2 in 25-75% of cells indicates the cancer is likely to responds to the treatment.