33. The pharmaceutical formulation of claim 31, wherein the additional therapeutic agent is an anti-MUC16 antibody conjugated to a cytotoxic agent.

34. The immunoconjugate as in any of claims 19-29 for use as a medicament.

35. The immunoconjugate as in any of claims 19-29 for use in treating a mesothelin-positive cancer.

36. The immunoconjugate for use as in claim 35, wherein the mesothelin-positive cancer is selected from pancreatic cancer, ovarian cancer, lung cancer, endometrial cancer, and mesothelioma.

37. The immunoconjugate for use as in claim 35, wherein the mesothelin-positive cancer is a dual-positive cancer.

38. Use of the immunoconjugate as in any of claims 19-29 in the manufacture of a medicament.

39. The use of claim 38, wherein the medicament is for treatment of a mesothelin-positive cancer.

40. The use of claim 39, wherein the mesothelin-positive cancer is selected from pancreatic cancer, ovarian cancer, lung cancer, endometrial cancer and mesothelioma.

41. The use of claim 39, wherein the mesothelin-positive cancer is a dual-positive cancer.

~~42. A method of treating an individual having a mesothelin-positive cancer, the method comprising administering to the individual an effective amount of an immunoconjugate as in any of claims 19-29.~~

~~43. The method of claim 42, wherein the mesothelin-positive cancer is selected from pancreatic cancer, ovarian cancer, lung cancer, endometrial cancer, and mesothelioma.~~

~~44. The method of claim 42, wherein the mesothelin-positive cancer is a dual-positive cancer.~~

~~45.~~42. The ~~method~~ use of claim ~~42~~39, wherein the medicament is to be administered with ~~further comprising administering~~ an additional therapeutic agent to the individual.

~~46.~~43. The ~~method~~ use of claim ~~45~~42, wherein the additional therapeutic agent is gemcitabine.

~~47.~~44. The ~~method~~ use of claim ~~45~~42, wherein the additional therapeutic agent is an anti-MUC16 antibody conjugated to a cytotoxic agent.

~~48.~~45. An in vitro method of inhibiting proliferation of a mesothelin-positive cell, the method comprising exposing the cell to an immunoconjugate as in any of claims 19-29 under

conditions permissive for binding of the immunoconjugate to mesothelin on the surface of the cell, thereby inhibiting proliferation of the cell.

~~49.~~46. The method of claim ~~48~~45, wherein the cell is a pancreatic, ovarian, lung, or endometrial cancer cell or mesothelioma cell.

~~50.~~47. The method of claim ~~48~~45, wherein the cell is a dual-positive cell.

~~51.~~48. An antibody as in any of claims 1-15 conjugated to a label.

~~52.~~49. The antibody of claim ~~51~~48, wherein the label is a positron emitter.

~~53.~~50. The antibody of claim ~~52~~49, wherein the positron emitter is ^{89}Zr.

~~54.~~51. A method of detecting human mesothelin in a biological sample comprising contacting the biological sample with an anti-mesothelin antibody as in any of claims 1-15 under conditions permissive for binding of the anti-mesothelin antibody to a naturally occurring human mesothelin, and detecting whether a complex is formed between the anti-mesothelin antibody and a naturally occurring human mesothelin in the biological sample.

~~55.~~52. The method of claim ~~54~~51, wherein the anti-mesothelin antibody is an antibody as in any of claims 8(c), 14(c), and 14(d).

~~56.~~53. The method of claim ~~54~~51, wherein the biological sample is a pancreatic cancer sample, ovarian cancer sample, lung cancer sample, endometrial cancer sample, or mesothelioma sample.

~~57.~~54. The method of claim ~~54~~51, wherein the method comprises performing immunohistochemistry on a tissue section.

~~58.~~55. The method of claim ~~54~~51, wherein the biological sample is serum.

~~59.~~56. A method for detecting a mesothelin-positive cancer comprising (i) administering a labeled anti-mesothelin antibody to a subject having or suspected of having a mesothelin-positive cancer, wherein the labeled anti-mesothelin antibody comprises an anti-mesothelin antibody as in any of claims 1-15, and (ii) detecting the labeled anti-mesothelin antibody in the subject, wherein detection of the labeled anti-mesothelin antibody indicates a mesothelin-positive cancer in the subject.

~~60.~~57. The method of claim ~~59~~56, wherein the labeled anti-mesothelin antibody is an antibody as in claim 8(a) or 14(a) that is labeled.

~~61.~~58. The method of claim ~~59~~ 56 or claim ~~60~~57, wherein the labeled anti-mesothelin antibody comprises an anti-mesothelin antibody conjugated to a positron emitter.

~~62.~~59. The method of claim ~~61~~58, wherein the positron emitter is ^{89}Zr.

~~63.~~60. The antibody of claim 8 comprising (i) HVR-H1 comprising the amino acid sequence of SEQ ID NO:20, (ii) HVR-H2 comprising the amino acid sequence of SEQ ID

NO:21, (iii) HVR-H3 comprising the amino acid sequence of SEQ ID NO:22, (iv) HVR-L1 comprising the amino acid sequence of SEQ ID NO:17, (v) HVR-L2 comprising the amino acid sequence of SEQ ID NO:18, and (vi) HVR-L3 comprising the amino acid sequence of SEQ ID NO:19.

~~64.~~61. The antibody of claim ~~63~~60, further comprising a light chain variable domain comprising a framework FR2 sequence of SEQ ID NO:25 and an FR3 sequence of SEQ ID NO:27.

~~65.~~62. The antibody of claim 8 comprising (i) HVR-H1 comprising the amino acid sequence of SEQ ID NO:36, (ii) HVR-H2 comprising the amino acid sequence of SEQ ID NO:37, (iii) HVR-H3 comprising the amino acid sequence of SEQ ID NO:39, (iv) HVR-L1 comprising the amino acid sequence of SEQ ID NO:33, (v) HVR-L2 comprising the amino acid sequence of SEQ ID NO:34, and (vi) HVR-L3 comprising the amino acid sequence of SEQ ID NO:35.

~~66.~~63. The antibody of claim 8 comprising HVR-H1, HVR-H2, HVR-H3, HVR-L1, HVR-L2 and HVR-L3 of the antibody produced by hybridoma 19C3 having ATCC Accession No. PTA-11464.

~~67.~~64. The antibody of claim 14 comprising a VH sequence of SEQ ID NO:8 and a VL sequence of SEQ ID NO:4.

~~68.~~65. The antibody of claim 14 comprising a VH sequence of SEQ ID NO:16 and a VL sequence of SEQ ID NO:12.

~~69.~~66. The antibody of claim 14 comprising a VH sequence and a VL sequence of the antibody produced by hybridoma 19C3 having ATCC Accession No. PTA-11464.

~~70.~~67. The antibody of claim 14 produced by hybridoma 19C3 having ATCC Accession No. PTA-11464.

68. Use of an immunoconjugate as in any of claims 19-29 in the manufacture of a medicament for inhibiting proliferation of a mesothelin-positive cell, wherein the cell is to be exposed to said immunoconjugate under conditions permissive for binding of the immunoconjugate to mesothelin on the surface of the cell, to thereby inhibit proliferation of the cell.

69. The use of claim 68, wherein the cell is a pancreatic, ovarian, lung, or endometrial cancer cell or mesothelioma cell.

70. The use of claim 68, wherein the cell is a dual-positive cell.