We Claim:

1. An antibody-drug conjugate of the formula:

Ab-(LU-D)*p*

or a pharmaceutically acceptable salt thereof wherein;

(a) Ab is an anti-5T4 antibody or antigen binding portion thereof, comprising a heavy chain variable region having:

(i) a VH CDR1 region as shown in SEQ ID NO: 5,

(ii) a VH CDR2 region as shown in SEQ ID NO: 6, and

(iii) a VH CDR3 region as shown in SEQ ID NO: 7;

(b) LU is a linker unit selected from the group consisting of maleimidocaproyl and maleimidocaproyl-Val-Cit,

(c) *p* is an integer from about 1 to about 8, and

(d) D is a Drug unit selected from the group consisting of MMAE, MMAD, and MMAF.

2. The antibody-drug conjugate of Claim 1 wherein said anti-5T4 antibody or antigen binding portion thereof, comprises a light chain variable region having:

(a) a VL CDR1 region as shown in SEQ ID NO: 8,

(b) a VL CDR2 region as shown in SEQ ID NO: 9, and

(c) a VL CDR3 region as shown in SEQ ID NO: 10.

3. The antibody-drug conjugate of Claims 1 or 2 wherein said anti-5T4 antibody or antigen binding portion thereof, further comprises:

1) a heavy chain variable region having

(a) a VH CDR1 region as shown in SEQ ID NO: 5,

(b) a VH CDR2 region as shown in SEQ ID NO: 6, and

(c) a VH CDR3 region as shown in SEQ ID NO: 7.

2) a light chain variable region having

(a) a VL CDR1 region as shown in SEQ ID NO: 8,
(b) a VL CDR2 region as shown in SEQ ID NO: 9, and
(c) a VL CDR3 region as shown in SEQ ID NO: 10.

4. The antibody-drug conjugate of any one of Claims 1-3, wherein said anti-5T4 antibody or antigen binding portion thereof, comprises the VH region of SEQ ID NO: 3 and the VL region of SEQ ID NO: 4.

5. The antibody-drug conjugate of any one of Claims 1-4 wherein said anti-5T4 antibody or antigen binding portion thereof, consists of a heavy chain having SEQ ID NO:1 and a light chain having SEQ ID NO: 2.

6. The antibody-drug conjugate of any one of Claims 1-5, wherein said antibody or antigen binding portion thereof, recognizes an epitope on human 5T4 antigen, wherein said epitope comprises amino acid residues 173-258 and 282-361 of the amino acid sequence of SEQ ID NO:11.

7. The antibody-drug conjugate of any one of Claims 1-6, wherein said LU is maleimidocaproyl.

8. The antibody-drug conjugate of any one of Claims 1-7, wherein said Drug is MMAF.

9. The antibody-drug conjugate of any one of Claims 1-8, wherein *p* is an integer from about 1 to about 4.

10. The antibody-drug conjugate of Claim 1 wherein:
(a) said anti-5T4 antibody consists of a heavy chain having SEQ ID NO:1 and a light chain having SEQ ID NO: 2,
(b) said LU is maleimidocaproyl,

(c) said Drug is MMAF, and

(d) *p* is 4.

11. A pharmaceutical composition comprising the antibody-drug conjugate of any one of Claims 1-10 and a pharmaceutically acceptable carrier.

12. The antibody-drug conjugate of any one of Claims 1-11 for use in therapy.

13. The use of the antibody-drug conjugate of any one of Claims 1-11 for the manufacture of a medicament.

14. The use according to Claims 12 or 13, wherein said use is for the treatment of 5T4-positive cancer.

15. A nucleic acid that encodes the anti-5T4 antibody of any one of Claims 1-6.

16. A vector comprising the nucleic acid of Claim 15.

17. A host cell comprising the vector according to Claim 16.

18. A process for producing an antibody comprising cultivating the host cell of Claim 17 and recovering the antibody from the culture.

19. A process for producing an anti-5T4 antibody-drug conjugate comprising:

(a) chemically linking a linker unit selected from the group consisting of maleimidocaproyl or maleimidocaproyl-Val-Cit to a Drug unit selected from the group consisting of MMAE, MMAD, or MMAF;

(b) conjugating said linker-drug to the antibody recovered from the cell culture of Claim 18, and;

(c) purifying the antibody-drug conjugate.

Claims:

1. An antibody-drug conjugate of the formula:

Ab-(LU-D)*p*

or a pharmaceutically acceptable salt thereof wherein;

(a) Ab is an anti-5T4 antibody or antigen binding portion thereof, comprising a heavy chain variable region having:

(i) a VH CDR1 region as shown in SEQ ID NO: 5,

(ii) a VH CDR2 region as shown in SEQ ID NO: 6, and

(iii) a VH CDR3 region as shown in SEQ ID NO: 7;

(b) LU is a linker unit selected from the group consisting of maleimidocaproyl and maleimidocaproyl-Val-Cit,

(c) *p* is an integer from 1 to 8, and

(d) D is a Drug unit selected from the group consisting of MMAE, MMAD, and MMAF.

2. The antibody-drug conjugate of Claim 1 wherein said anti-5T4 antibody or antigen binding portion thereof, comprises a light chain variable region having:

(a) a VL CDR1 region as shown in SEQ ID NO: 8,

(b) a VL CDR2 region as shown in SEQ ID NO: 9, and

(c) a VL CDR3 region as shown in SEQ ID NO: 10.

3. The antibody-drug conjugate of any one of Claims 1 or 2, wherein said anti-5T4 antibody or antigen binding portion thereof, comprises the VH region of SEQ ID NO: 3 and the VL region of SEQ ID NO: 4.

4. The antibody-drug conjugate of any one of Claims 1-3 wherein said anti-5T4 antibody or antigen binding portion thereof, consists of a heavy chain having SEQ ID NO:1 and a light chain having SEQ ID NO: 2.

5. The antibody-drug conjugate of any one of Claims 1-4, wherein said antibody or antigen binding portion thereof, recognizes an epitope on human 5T4 antigen,

wherein said epitope comprises amino acid residues 173-258 and 282-361 of the amino acid sequence of SEQ ID NO:11.

6. The antibody-drug conjugate of any one of Claims 1-5, wherein said LU is maleimidocaproyl.

7. The antibody-drug conjugate of any one of Claims 1-6, wherein said Drug is MMAF.

8. The antibody-drug conjugate of any one of Claims 1-7, wherein *p* is an integer from 1 to 4.

9. The antibody-drug conjugate of any one of Claims 1-7 wherein:

(a) said anti-5T4 antibody consists of a heavy chain having SEQ ID NO:1 and a light chain having SEQ ID NO: 2,

(b) said LU is maleimidocaproyl,

(c) said Drug is MMAF, and

(d) *p* is an integer from 1 to 8.

10. The antibody-drug conjugate of any one of Claims 1-8 wherein:

(a) said anti-5T4 antibody consists of a heavy chain having SEQ ID NO:1 and a light chain having SEQ ID NO: 2,

(b) said LU is maleimidocaproyl,

(c) said Drug is MMAF, and

(d) *p* is an integer from 1 to 4.

11. A pharmaceutical composition comprising the antibody-drug conjugate of any one of Claims 1-10 and a pharmaceutically acceptable carrier.

12. The antibody-drug conjugate according to any one of Claims 1-10 or pharmaceutical composition according to claim 11 for use as a medicament.

13. The antibody-drug conjugate according to any one of Claims 1-10 or pharmaceutical composition according to claim 11 for use in the treatment of a 5T4-positive cancer.

14. The antibody-drug conjugate according to any one of Claims 1-10 or pharmaceutical composition according to claim 11 for use according to Claim 13 wherein said cancer is selected from the group consisting of colorectal, breast, pancreatic, and non-small cell lung carcinomas.

15. A process for producing an anti-5T4 antibody-drug conjugate comprising:

(a) chemically linking a linker unit selected from the group consisting of maleimidocaproyl or maleimidocaproyl-Val-Cit to a Drug unit selected from the group consisting of MMAE, MMAD, or MMAF;

(b) conjugating said linker-drug to the anti-5T4 antibody or antigen binding portion thereof of any one of Claims 1-5, and;

(c) purifying the antibody-drug conjugate.