## CLAIMS

1. An antibody that binds to CEACAM5, wherein the antibody comprises a heavy chain variable region ($VH_{CEACAM5}$) comprising the heavy chain complementarity determining region (HCDR) 1 of SEQ ID NO: 1, the HCDR 2 of SEQ ID NO: 12, and the HCDR 3 of SEQ ID NO: 3, and a light chain variable region ($VL_{CEACAM5}$) comprising the light chain complementarity determining region (LCDR) 1 of SEQ ID NO: 5, the LCDR 2 of SEQ ID NO: 26 and the LCDR 3 of SEQ ID NO: 28.

2. The antibody of claim 1, wherein

(i) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 14, and the LCDR3 of SEQ ID NO: 20;

(ii) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 14, and the LCDR3 of SEQ ID NO: 16;

(iii) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 14, and the LCDR3 of SEQ ID NO: 18;

(iv) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 14, and the LCDR3 of SEQ ID NO: 22;

(v) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 14, and the LCDR3 of SEQ ID NO: 7;

(vi) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 24, and the LCDR3 of SEQ ID NO: 7; or

(vii) the $VH_{CEACAM5}$ comprises the HCDR1 of SEQ ID NO: 1, the HCDR2 of SEQ ID NO: 12, and the HCDR3 of SEQ ID NO: 3; and the $VL_{CEACAM5}$ comprises the LCDR1 of SEQ ID NO: 5, the LCDR2 of SEQ ID NO: 10, and the LCDR3 of SEQ ID NO: 7.

3. The antibody of claim 1 or 2, wherein the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13; and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 29.

4. An antibody that binds to CEACAM5, wherein the antibody comprises a heavy chain variable region ($VH_{CEACAM5}$) comprising an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13, and a light chain variable region ($VL_{CEACAM5}$) comprising an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 29.

5. The antibody of any one of claims 1-4, wherein

(i) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 21;

(ii) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 17;

(iii) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 19;

(iv) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 23;

(v) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 15;

(vi) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 25; or

(vii) the $VH_{CEACAM5}$ comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 13 and/or the $VL_{CEACAM5}$

comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO: 11.

6. The antibody of any one of claims 1-5, wherein the antibody comprises an Fc region, particularly a human Fc region.

7. The antibody of claim 6, wherein the Fc region is an IgG, particularly an $IgG_1$, Fc region.

8. The antibody of any one of claims 1-7, wherein the antibody is a full-length antibody.

9. The antibody of any one of claims 1-8, wherein the antibody is an IgG, particularly an $IgG_1$, antibody.

10. The antibody of any one of claims 1-5, wherein the antibody is an antibody fragment that binds to CEACAM5, particularly an antibody fragment selected from the group of an Fv molecule, a scFv molecule, a Fab molecule, and a $F(ab')_2$ molecule.

11. The antibody of any one of claims 1-10, wherein the antibody is a multispecific, particularly a bispecific, antibody.

12. The antibody of claim 11, wherein the antibody is a bispecific antibody that binds to CEACAM5 and to CD3.

13. An isolated polynucleotide encoding the antibody of any one of claims 1-12.

14. A host cell comprising the isolated polynucleotide of claim 13.

15. A method of producing an antibody that binds to CEACAM5, comprising the steps of (a) culturing the host cell of claim 14 under conditions suitable for the expression of the antibody and optionally (b) recovering the antibody.

16. An antibody that binds to CEACAM5, produced by the method of claim 15.

17. A pharmaceutical composition comprising the antibody of any one of claims 1-12 or 16 and a pharmaceutically acceptable carrier.

18. The antibody of any one of claims 1-12 or 16 or the pharmaceutical composition of claim 17 for use as a medicament.

19. The antibody of any one of claims 1-12 or 16 or the pharmaceutical composition of claim 17 for use in the treatment of a disease.

20. The antibody or the pharmaceutical composition for use of claim 19, wherein the disease is cancer.

21. Use of the antibody of any one of claims 1-12 or 16 or the pharmaceutical composition of claim 17 in the manufacture of a medicament.

22. Use of the antibody of any one of claims 1-12 or 16 or the pharmaceutical composition of claim 17 in the manufacture of a medicament for the treatment of a disease, particularly cancer.

23. A method of treating a disease in an individual, comprising administering to said individual an effective amount of the antibody of any one of claims 1-12 or 16 or the pharmaceutical composition of claim 17.

24. The method of claim 23, wherein the disease is cancer.