[CLAIMS]

[Claim 1] An anti-CEACAM5 antibody or antigen-binding fragment thereof specifically binding to CEACAM5 comprising:

(1) a heavy chain CDR1 including an amino acid sequence represented by SEQ ID NO: 1,

a heavy chain CDR2 including an amino acid sequence represented by SEQ ID NO: 2,

a heavy chain CDR3 including an amino acid sequence represented by SEQ ID NO: 3,

a light chain CDR1 including an amino acid sequence represented by SEQ ID NO: 4,

a light chain CDR2 including an amino acid sequence represented by SEQ ID NO: 5, and

a light chain CDR3 including an amino acid sequence represented by SEQ ID NO: 6;

(2) a heavy chain CDR1 including an amino acid sequence represented by SEQ ID NO: 13,

a heavy chain CDR2 including an amino acid sequence represented by SEQ ID NO: 14,

a heavy chain CDR3 including an amino acid sequence represented by SEQ ID NO: 15,

a light chain CDR1 including an amino acid sequence represented by SEQ ID NO: 16,

a light chain CDR2 including an amino acid sequence

represented by SEQ ID NO: 17, and

a light chain CDR3 including an amino acid sequence represented by SEQ ID NO: 18;

(3) a heavy chain CDR1 including an amino acid sequence represented by SEQ ID NO: 24,

a heavy chain CDR2 including an amino acid sequence represented by SEQ ID NO: 25,

a heavy chain CDR3 including an amino acid sequence represented by SEQ ID NO: 26,

a light chain CDR1 including an amino acid sequence represented by SEQ ID NO: 27,

a light chain CDR2 including an amino acid sequence represented by SEQ ID NO: 28, and

a light chain CDR3 including an amino acid sequence represented by SEQ ID NO: 29; or

(4) a heavy chain CDR1 including an amino acid sequence represented by SEQ ID NO: 40,

a heavy chain CDR2 including an amino acid sequence represented by SEQ ID NO: 41 or 46,

a heavy chain CDR3 including an amino acid sequence represented by SEQ ID NO: 42,

a light chain CDR1 including an amino acid sequence represented by SEQ ID NO: 43,

a light chain CDR2 including an amino acid sequence

represented by SEQ ID NO: 44, and

a light chain CDR3 including an amino acid sequence represented by SEQ ID NO: 45.

[Claim 2] The anti-CEACAM5 antibody or antigen-binding fragment thereof of claim 1, wherein the anti-CEACAM5 antibody or antigen-binding fragment thereof specifically binds to CEACAM5 present on the cell surface without substantially binding to soluble CEACAM5 (sCEACAM5) that is not bound to the cell surface.

[Claim 3] The anti-CEACAM5 antibody or antigen-binding fragment thereof of claim 1 or 2, wherein the anti-CEACAM5 antibody or antigen-binding fragment thereof is a humanized antibody.

[Claim 4] An antibody-drug conjugate comprising the anti-CEACAM5 antibody or binding fragment thereof of claim 1 or 2 as an active ingredient.

[Claim 5] A pharmaceutical composition for preventing or treating cancer, comprising the anti-CEACAM5 antibody or binding fragment thereof of any one of claim 1 or 2 as an active ingredient.

[Claim 6] The pharmaceutical composition for preventing or treating cancer of claim 5, wherein the cancer is solid cancer.

[Claim 7] The pharmaceutical composition for preventing or

treating cancer of claim 6, wherein the solid cancer is any one of colon cancer, pancreatic cancer, lung cancer, stomach cancer, hepatocellular carcinoma, breast cancer, and thyroid cancer.

[Claim 8] The pharmaceutical composition for preventing or treating cancer of claim 5, wherein the anti-CEACAM5 antibody or binding fragment thereof is used as a cell therapeutic agent for adaptive cell therapy (ACT).

[Claim 9] A composition for inhibiting the proliferation of CEACAM5-expressing tumor cells, comprising the anti-CEACAM5 antibody or binding fragment thereof of claim 1 or 2.

[Claim 10] A nucleic acid encoding the anti-CEACAM5 antibody or binding fragment thereof of claim 1 or 2.

[Claim 11] A recombinant expression vector comprising the nucleic acid of claim 10.

[Claim 12] A host cell transformed with the recombinant expression vector of claim 11.

[Claim 13] Use of the anti-CEACAM5 antibody or binding fragment thereof of claim 1 or 2 in the manufacture of a medicament for preventing or treating cancer in a subject.