abcam

ab4539

# Anti-CEACAM 5 + 6 antibody [MUS]

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Native Full Length Protein corresponding to Human CEACAM5. Database link P06731 |
| **Carrier free** | Yes |
| **Clone number** | MUS |
| **Purification technique** | Affinity purification Protein G |
| **Specificity** | MUS reacts specifically with CEACAM 5 (CEA/CD66e) and CEACAM 6 (NCA/CD66c) transiently expressed on the cell surface of transfected BOSC23 cells as demonstrated by flow cytometry. |
| **Light chain type** | unknown |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## Flow Cyt

**Expected**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

## ELISA

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | Predicted molecular weight Carcino Embryonic Antigen: 84 kDa. Predicted molecular weight CEACAM 6: 41 kDa |

## IHC-Fr

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

# Target data

See full target information CEACAM5

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| **Function** | Cell surface glycoprotein that plays a role in cell adhesion, intracellular signaling and tumor progression (PubMed:10864933, PubMed:10910050, PubMed:2803308). Mediates homophilic and heterophilic cell adhesion with other carcinoembryonic antigen-related cell adhesion molecules, such as CEACAM6 (PubMed:2803308). Plays a role as an oncogene by promoting tumor progression; induces resistance |

to anoikis of colorectal carcinoma cells (PubMed:10910050). (Microbial infection) Receptor for E.coli Dr adhesins. Binding of E.coli Dr adhesins leads to dissociation of the homodimer.

## Storage

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| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

**Antibodies produced from cDNA: Conventional technologies usually either generate antibodies against purified proteins, or against synthetic peptides based on amino acid sequences derived from DNA sequence data. Genetic immunization involves introducing the gene in the form of a cDNA directly into an animal which translates this cDNA into protein thus stimulating an immune response against the foreign protein. Although the synthetic peptide approach is comparable in speed, the quality of antibodies generated by genetic immunization is far superior. This is because the protein is made by the immunized animal, utilzing complex cellular mechanisms that allow it to gain a native conformation. Antibodies are then generated against a native protein, such as is found in the blood or tissues of its host species. Membrane-bound or secreted proteins often create problems for conventional antibody technology because in their native form, they are often modified by glycosylation, or in some cases exist as multiple membrane-spanning proteins that are not soluble following isolation or synthesis in recombinant systems. All of these problems are avoided if the immunized animal makes the protein itself. Antibodies generated by genetic immunization have been shown to have binding affinities to the protein in the sub-nanomolar range, which are approximately 100x higher than conventionally developed antibodies and much higher than single chain antibodies. Results confirm published data for much higher avidity of sera generated by genetic immunization as compared with that gained by immunization with a corresponding recombinant protein.**

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

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|---|---|
| **Activity summary** | CEACAM5 and CEACAM6 also known as carcinoembryonic antigen-related cell adhesion molecule 5 and 6 are glycoproteins with important mechanical roles in cellular adhesion. CEACAM5 has a molecular weight of approximately 180 kDa and CEACAM6 weighs around 90 kDa. These proteins mainly express in epithelial cells especially in mucosal tissues such as the gastrointestinal tract and respiratory epithelium. CEACAM5 was also identified as the carcinoembryonic antigen (CEA) widely utilized in cancer diagnostics. |

| | |
|---|---|
| **Biological function summary** | The CEACAM proteins including CEACAM5 and CEACAM6 contribute to cellular adhesion processes and signal transduction. They function as part of larger complexes that mediate cell-cell interactions. By engaging in homophilic and heterophilic binding they help regulate cell proliferation and differentiation. In normal physiological conditions these proteins play roles in maintaining tissue architecture and integrity. |
| **Pathways** | CEACAM5 and CEACAM6 proteins involve cellular communication and immune system pathways. They interact with signaling molecules part of pathways like the MAPK and PI3K-Akt pathways influencing cellular responses to external stimuli. Related proteins such as CEACAM1 can modulate immune reactions and cell signaling showing the interconnected roles of CEACAM family members in these pathways. |
| **Associated diseases and disorders** | CEACAM5 and CEACAM6 connect strongly with various cancers particularly colorectal and lung cancer. Overexpression of these proteins often indicates tumor progression and metastasis. CEACAM5 is frequently used as a marker for colorectal cancer prognosis while CEACAM6 is associated with the invasive nature of cancer cells. Both proteins interact with pathways involving epidermal growth factor receptor (EGFR) highlighting their relevance in oncogenic processes and potential as therapeutic targets. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

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