

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CEACAM-5/CD66e in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human CEACAM-1 or -6 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 487609
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human CEACAM-5/CD66e Lys35-Ala685 Accession # ABM87752
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

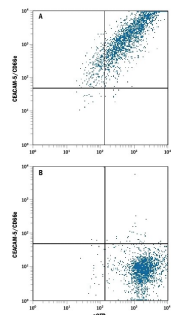
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	Recombinant Human CEACAM-5/CD66e (Catalog # 4128-CM)
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

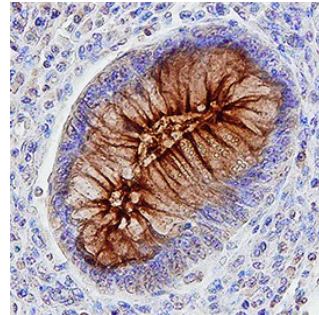
## DATA

### Flow Cytometry



**Detection of CEACAM-5/CD66e in HEK293 Human Cell Line Transfected with Human CEACAM-5/CD66e and eGFP by Flow Cytometry.** HEK293 human embryonic kidney cell line transfected with either (A) human CEACAM-5/CD66e or (B) human CEACAM-8/CD66b and eGFP was stained with Mouse Anti-Human CEACAM-5/CD66e Monoclonal Antibody (Catalog # MAB41281) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). Quadrant markers were set based on control antibody staining (Catalog # MAB003).

### Immunohistochemistry



**CEACAM-5/CD66e in Human Colon.** CEACAM-5/CD66e was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human CEACAM-5/CD66e Monoclonal Antibody (Catalog # MAB41281) at 10 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cell membranes. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

CEACAM-5, also known as CEA and CD66e, belongs to the large family of CEACAM and pregnancy specific glycoproteins. CEACAM molecules are either transmembrane or GPI-linked, and are differentially expressed between species (1, 2). Orthologs of human CEACAM-5 have not been described in other species. CEACAM-5, which is expressed primarily by epithelial cells, consists of an N-terminal Ig-like V-set domain followed by six Ig-like C2-set domains and a GPI anchor (2-4). CEACAM-5 is synthesized as a 180 kDa, variably glycosylated molecule of which approximately 60% is carbohydrate (5). CEACAM-5 functions as a calcium-independent adhesion molecule through homophilic and heterophilic interactions with CEACAM-1 (6-8). CEACAM-5 is restricted to the apical face of intestinal epithelial cells in the adult but is more diffuse during embryonic development and in tumors (7). This is consistent with a role in the development and maintenance of epithelial architecture. CEACAM-5 is upregulated in a wide variety of human tumors and is a commonly used cancer marker (9). It promotes tumor cell migration, invasion, adhesion, and metastasis (10). It also contributes to tumor formation by maintaining cellular proliferation in the presence of differentiation stimuli, and by blocking apoptosis following loss of ECM anchorage (anoikis) (11, 12). The GPI anchoring of CEACAM-5 can be released by GPI-PLD, resulting in a soluble molecule that also promotes tumor metastasis (13). Cell surface expression of CEACAM-5 on tumor cells prevents the adhesion of CEACAM-1 expressing NK cells and provides protection from NK-mediated lysis (6). CEACAM-5 also binds a subset of *Neisseria* opacity proteins (Opa) and *E. coli* adhesion proteins (14-16). These interactions trigger clustering of the lipid raft-localized CEACAM-5 to sites of pathogen contact (15, 16).

**References:**

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