Human CEACAM-6/CD66c Antibody

Monoclonal Mouse IgG_{2A} Clone # 439424

Catalog Number: MAB3934

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CEACAM-6/CD66c in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human CEACAM-1, -3, or -5 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 439424
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CEACAM-6/CD66c Lys35-Gly320 Accession # P40199
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

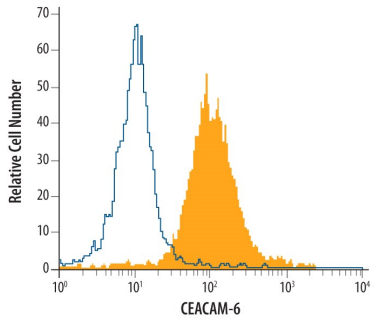
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human CEACAM-6/CD66c (Catalog # 3934-CM)
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

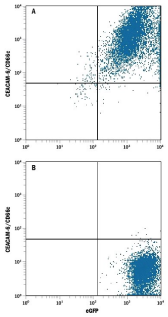
DATA

Flow Cytometry



Detection of CEACAM-6/CD66c in Human Granulocytes by Flow Cytometry. Human whole blood granulocytes were stained with Mouse Anti-Human CEACAM-6/CD66c Monoclonal Antibody (Catalog # MAB3934, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG F(ab')$_2$ Secondary Antibody (Catalog # F0102B).

Flow Cytometry



Detection of CEACAM-6/CD66c in HEK293 Human Cell Line Transfected with Human CEACAM-6/CD66c and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with (A) human CEACAM-6/CD66c or (B) irrelevant transfectants and eGFP was stained with Mouse Anti-Human CEACAM-6/CD66c Monoclonal Antibody (Catalog # MAB3934) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). Quadrant markers were set based on control antibody staining (Catalog # MAB003).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Carcinoembryonic antigen-related cell adhesion molecule 6 (CEACAM-6), previously called nonspecific cross-reacting antigen (NCA) or CD66c, is one of seven human CEACAM family members within the immunoglobulin superfamily (1-4). In humans, CEACAMs include type I transmembrane proteins (CEACAM-1, -3, and -4) and Glycosylphosphatidylinositol (GPI)-linked molecules (CEACAM-5 through -8) (1). There is no human CEACAM-2. Human CEACAM-6 is a 90 kDa, GPI-linked membrane protein that contains a 34 amino acid (aa) signal sequence, a 286 aa extracellular domain (ECD), and a 24 aa hydrophobic C-terminal propeptide. The GPI membrane anchor is attached at the C-terminus following cleavage of the propeptide. CEACAM-6 contains one N-terminal V-type Ig-like domain (N domain), followed by two C2-type Ig-like domains (2-4). It shows considerable glycosylation, including (sialyl) $Lewis^X$, which mediates binding to E-Selectin, Galectins and some bacterial fimbrae (1, 2). Mature human CEACAM-6 shows 84%, 85%, 80%, 87% and 51% aa identity to the equivalent extracellular regions of human CEACAMs -1, -5 (CEA) and -8, rhesus CEACAM-2, and bovine CEACAM-6, respectively. CEACAM-6 is expressed by granulocytes and their precursors. Activation enhances surface expression by mobilizing CEACAM-6 from storage in azurophilic granules (5, 6). It often shows aberrant expression in acute lymphocytic leukemias (10). CEACAM-6 is also expressed in epithelia of various organs and is upregulated in pancreatic and colon adenocarcinomas and hyperplastic polyps (7, 8). Over-expression confers resistance to adhesion-related apoptosis (anoikis) in tumor cells (8, 9). CEACAM-6 is an intercellular adhesion molecule, forming both homotypic, and heterotypic bonds with CEACAM-1, -5 and -8 through interaction of the V-type Ig-like domains (11, 12). Cross-linking of neutrophil CEACAM-6 augments Integrin $\alpha_v\beta_3$ and β_2-mediated adhesion, apparently by Src and Caveolin-mediated inside-out Integrin activation (8, 13, 14).

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