Human CEACAM-5/CD66e Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4128

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CEACAM-5 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human (rh) CEACAM-1 and rhCEACAM-6 and less than 5% cross-reactivity with rhCEACAM-3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CEACAM-5 Lys35-Ala685 Accession # Q8N4D0
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

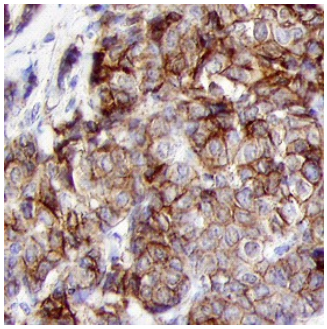
APPLICATIONS

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	0.1 µg/mL	Recombinant Human CEACAM-5/CD66e (Catalog # 4128-CM)
Flow Cytometry	2.5 µg/10^6 cells	Human whole blood granulocytes
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



CEACAM-5/CD66e in Human Breast Cancer Tissue. CEACAM-5/CD66e was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Sheep Anti-Human CEACAM-5/CD66e Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4128) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific labeling was localized to the plasma membrane of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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

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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