# Recombinant Human CEACAM-6/CD66c

Catalog Number: 3934-CM

## DESCRIPTION

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| **Source** | Mouse myeloma cell line, NS0-derived<br>Lys35-Gly320, with a C-terminal 6-His tag<br>Accession # Q53XP7 |
| **N-terminal Sequence Analysis** | Lys35 |
| **Predicted Molecular Mass** | 32.0 kDa |

## SPECIFICATIONS

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| **SDS-PAGE** | 57-75 kDa, reducing conditions |
| **Activity** | Measured by the ability of the immobilized protein to support the adhesion of calcium ionophore treated human neutrophils. When 2 x $10^5$ cells/well are added to CEACAM-6 coated plates (10 µg/mL, 100 µL/well), 35-60% of the cells will adhere after 20 minutes at 37° C. |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 100 µg/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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Carcinoembryonic antigen-related cell adhesion molecule 6 (CEACAM-6), previously called nonspecific crossreacting 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 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 $\alpha_v\beta_3$ and $\beta_2$ integrin-mediated adhesion, apparently by src and caveolin-mediated inside-out integrin activation(8, 13, 14).

**References:**


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