

Biotinylated Recombinant Human CEACAM-5/CD66e His-tag Avi-tag

Catalog Number: AVI4128

DESCRIPTION				
Source	Chinese Hamster Ovary cell line, CHO-derived human CEACAM-5/CD66e protein			
	Human CEACAM-5/CD66e (Lys35-Ala685) Accession # NP_004354.3	ннннн	Avi-tag	
	N-terminus		C-terminus	
N-terminal Sequence Analysis	Lys35			
Structure / Form	Biotinylated via Avi-tag			
Predicted Molecular Mass	74 kDa			

SPECIFICATIONS		
SDS-PAGE	125-155 kDa, under reducing conditions	
Activity	Measured by its binding ability in a functional ELISA. When Biotinylated Recombinant Human CEACAM-5/CD66e His-tag Avi-tag (Catalog # AVI4128) is immobilized at 1 μg/mL (100 μL/well), Recombinant Human Galectin-4 (Catalog # 1227-GA) binds with an ED ₅₀ of 15-120 ng/mL.	
Endotoxin Level	<0.10 EU per 1 μ g 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 with Trehalose. See Certificate of Analysis for details.	

PREPARATION AND STORAGE			
Reconstitution	Reconstitute at 500 μg/mL in 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.
 - 3 months, -20 to -70 °C under sterile conditions after reconstitution.



DATA

When Biotinylated Recombinant Human CEACAM-5/CD66e Histag Avi-tag (Catalog # AVI4128) is immobilized at 1 µg/mL (100 μ L/well), Recombinant Human Galectin-4 (Catalog # 1227-GA) binds with an ED₅₀ of 15-120 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Human CEACAM-5/CD66e His-tag Avi-tag Protein (Catalog # AVI4128) was resolved with SDS-PACE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 125-155 kDa.

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BACKGROUND

CEACAM-5, also known as CEA, CD66e and Psg30, belongs to the large family of CEACAM and pregnancy specific glycoproteins. CEACAM family members are highly glycosylated with varying arrangements of IgV-like and IgC-like regions in their extracellular domains (ECD) and can be expressed as transmembrane, glycophosphatidyl inositol (GPI) linked or soluble proteins (1-3). CEACAM-5 consists of an N-terminal Ig-like V-set domain followed by six Ig-like C2-set domains and a GPI anchor (2, 4, 5). While the mature ECD of human CEACAM-5 shares 26% amino acid identity with mouse CEACAM-5, it remains unclear if these molecules are direct orthologs (6). CEACAM-1 (1, 7). 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 (8). This is consistent with a role in the development and maintenance of epithelial architecture. CEACAM-5 is up-regulated in a wide variety of human tumors, promoting tumor cell migration, invasion, adhesion, and metastasis, and has been used as a cancer marker (8, 9). 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) (10, 11). The GPI anchoring of CEACAM-5 can be released by GPI-PLD, resulting in a soluble molecule that also promotes tumor metastasis (12). 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 (8). CEACAM-5 to sites of pathogen contact (14, 15). Our Avi-tag Biotinylated Recombinant Human CEACAM-5 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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