Product Name: Human CEACAM5-A3/B3 Protein Dimer, His-Avi Tag

Product Code: CSP-26446-03

FOR RESEARCH USE ONLY (RUO)

Protein Name: CEACAM5-A3/B3, Protein Dimer His-Avi

Alternate Name(s): Cell adhesion molecule, CEACAM5, Carcinoembryonic antigen-related cell adhesion molecule 5, CEA cell adhesion molecule 5, Meconium antigen 100, Cluster of Differentiation 66e, CD66e

Expression Host
HEK293T

Amino Acid Range
V496-A685

Protein Construct
CEA dimer protein contains a CEA extracellular domain (UniProt# P06731) fused with a proprietary cis-dimer motif followed by a tandem His-Avi tag at the C-terminus. Expressed in HEK293T cell line.

SDS-Page Molecular Weight
60.5 kDa. Migration range of the dimer protein with glycosylation under non-reducing condition is 120-190 kDa on SDS PAGE

Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

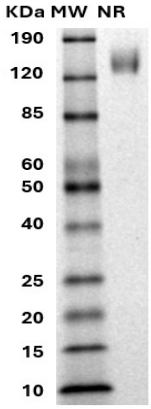
Shipping Conditions
Product is shipped at ambient temperature.

Formulation
Lyophilized from 0.22 μm filtered solution in PBS, pH 7.4 with 10% trehalose as a protectant

Stability & Storage
On receipt, store at -20 C or lower for long term storage.
This product is stable at:
-20 to -70 C for 12 months from date of receipt in lyophilized state.
-70 C for 3 months after reconstitution under sterile conditions.
Avoid repeated freeze-thaw cycles

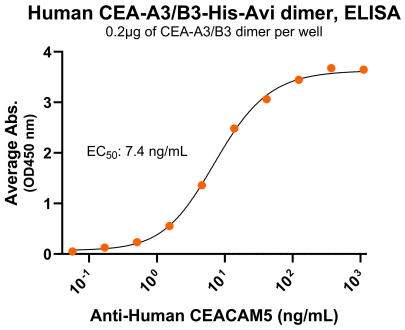
Reconstitution of lyophilized product
For best performance, we strongly recommend you reconstitute the lyophilized product with deionized water to a stock solution of 500 μg/mL.
Solubilize for 20 minutes at room temperature with occasional gentle mixing. Avoid shaking or vortexing.
For 25μg product size:
Reconstitute with 50 μL sterile deionized water.
For 100μg product size:
Reconstitute with 200 μL sterile deionized water.

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: CEACAM5-A3/B3 dimer under non-reduced condition
Migration range of the dimer protein with glycosylation under non-reducing condition is 120-190 kDa on SDS PAGE

Antibody Binding



Immobilized human CEACAM5-A3/B3-His-Avi dimer protein (CSP-26446-03) at 2 μg/mL (100 μL/well) can bind anti-human CEACAM5 monoclonal antibody with half maximal effective concentration (EC50) range of 3.7-14.8 ng/mL (QC tested).

Background

Human carcinoembryonic antigen (CEA) is part of a family of glycoproteins involved in cell adhesion. CEA is also known as Cell adhesion molecule (CEACAM5), Carcinoembryonic antigen-related cell adhesion molecule 5, Meconium antigen 100, and Cluster of Differentiation 66e (CD66e). CEA is a glycophosphatidylinositol (GPI) anchor protein. Literature supports that it can form dimers, and higher oligomers. It contains an extracellular domain with an N-terminal Ig variable-region–like (IgV) domain followed by six Ig constant region-type 2-like (IgC2-like) domains. It has been reported that A3–B3 is an important therapeutic targeting region, including membrane-proximal CAR targeting. CEA is expressed on columnar epithelial and goblet cells of the colon. CEA is highly expressed in colorectal carcinoma cells and plays a role as an oncogene by promoting tumor progression which has made it an emerging target of cancer therapeutics.