Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag

Catalog Number: AVI11191

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human ALCAM/CD166 protein

Human ALCAM/CD166 (Trp28-Ala526) Accession # Q13740.2	6-His tag	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Trp28
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	59 kDa

SPECIFICATIONS

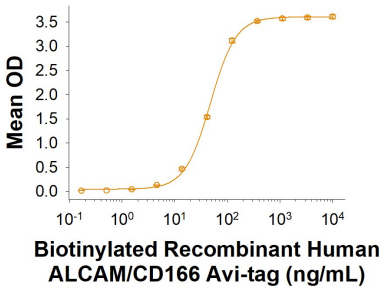
SDS-PAGE	71-90 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD6 Fc Chimera (Catalog # 627-CD) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag (Catalog # AVI11191) binds with an ED_{50} of 20.0-200 ng/mL.
Endotoxin Level	<1.0 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 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.

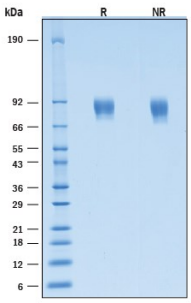
DATA

Binding Activity



Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag Protein Binding Activity. When Recombinant Human CD6 Fc Chimera (Catalog # 627-CD) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag Protein (Catalog # AVI11191) binds with an ED_{50} of 20.0-200 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human ALCAM/CD166 His-tag Avi-tag Protein (Catalog # AVI11191) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 71-90 kDa.

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BACKGROUND

Activated leukocyte cell adhesion molecule (ALCAM), also known as CD166, is a surface glycoprotein belonging to the immunoglobulin superfamily (1, 2). ALCAM, along with MCAM and BCAM/Lu, form a small subgroup of adhesion molecules involved in tissue development and maintenance, neurogenesis, and regulation of immune responses (3). Mature human ALCAM consists of an extracellular domain (ECD) containing 2 IgV and 3 IgC domains, a transmembrane domain, and a short cytoplasmic domain (1, 2). Within the ECD, human ALCAM shares 93% amino acid sequence identity with both mouse and rat ALCAM. An isoform of ALCAM with a shorter stalk region in the ECD is known to exist and is associated with higher shedding tendency and decreased cell adhesion (2). Initially found expressed on activated leukocytes, ALCAM expression has been detected in a wide variety of tissues and cells (3, 4). In addition to cell adhesion, other ALCAM functions include leukocyte migration across the blood brain barrier, T-cell activation, and osteogenesis, (2, 5, 6). Overexpression of ALCAM is often associated with poor prognosis in various human tumors, such as bladder cancer, prostate cancer, melanoma, and liver cancer (2, 7). Our Avi-tag Biotinylated Human ALCAM/CD166 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:

1. Bowen, M.A. *et al.* (1995) J. Exp. Med. **181**:2213.
2. Ferragut, F. *et al.* (2021) Cytokine Growth Factor Rev. **61**:27.
3. Swart, G.W. (2002) Eur. J. Cell Biol. **81**:313.
4. Zimmerman, A.W. *et al.* (2006) Blood **107**:3212.
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6. Cayrol, R. *et al.* (2008) Nat. Immunol. **9**:137.
7. Darvishi, B. *et al.* (2020) Exp. & Mol. Path **115**:104443.

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