Recombinant Mouse ALCAM/CD166 His-tag

Catalog Number: 10012-AL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse ALCAM/CD166 protein Trp28-Lys527, with a C-terminal 6-His tag Accession # AAC06342
N-terminal Sequence Analysis	Trp28
Predicted Molecular Mass	57 kDa

SPECIFICATIONS

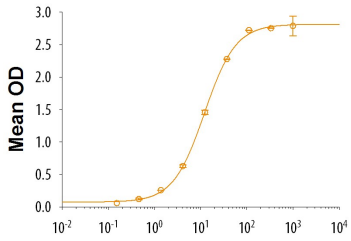
SDS-PAGE	81-95 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse ALCAM/CD166 is coated at 1 µg/mL, Recombinant Biotinylated Human CD6 Fc Chimera binds with an ED_{50} of 6-36 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL 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

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	• 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

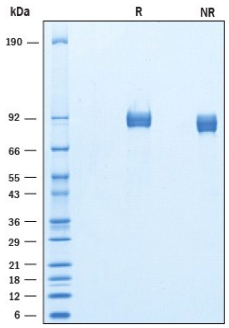
DATA

Binding Activity



When Recombinant Mouse ALCAM/CD166 is immobilized at 1 µg/mL, Recombinant Biotinylated Human CD6 Fc Chimera binds with an ED_{50} of 6-36 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse ALCAM/CD166 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 81-95 kDa.

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BACKGROUND

ALCAM (activated leukocyte cell adhesion molecule), designated CD166 and also called MEMD and SC-1/DM-GRASP/BEN in the chicken, is a 100-110 kDa type I transmembrane glycoprotein and a member of the Ig CAM family within the immunoglobulin superfamily (1). ALCAM is expressed on thymic epithelium, microvascular endothelium, activated lymphocytes and monocytes, and monocyte derived dendritic cells (1, 2). Mouse ALCAM cDNA encodes 583 amino acid (aa), including signal peptide (27 aa), extracellular domain (ECD, 500 aa) with two V-type and three C2-type Ig-like domains, transmembrane (22 aa) and cytoplasmic (34 aa) domains (1). Mouse ALCAM ECD shares 98%, 93%, and 92% aa sequence identity with rat, human/porcine and bovine/equine ALCAM, respectively. A secreted isoform in endothelial cells that is truncated at aa 133 (sALCAM) antagonizes full-length ALCAM (3, 4). ALCAM mediates low affinity adhesion with itself or the cysteine-rich scavenger receptor CD6 to regulate T cell development, immunological synapses (IS), and cell migration through endothelial junctions (1-11). ALCAM on thymic epithelia mediates adhesion to CD6 on $CD4^+CD8^+$ T cells (6). Adhesion of ALCAM-expressing antigen presenting cells and CD6-expressing T cells stabilizes the early IS, while later it enhances CD3 effects on T cell proliferation, CD25 expression, and Th1 commitment (2, 7, 8). High ALCAM expression at the blood brain barrier in active multiple sclerosis, and its mouse model (EAE), promotes leukocyte migration to the brain (8, 9). High ALCAM expression on melanoma cell lines appears to be pro-metastatic, but anti-metastatic activity has been reported in breast cancer (3, 10, 11). ALCAM may influence expression or adhesion of the neuronal adhesion molecule NCAM-L1, both in the developing retina and invasive melanoma (3, 12). It may also play a role in stabilizing cell-cell interaction among lymphatic endothelial cells (LECs) and affecting the organization and function of the lymphatic vessel (LV) network (13).

References:

1. Bowen, M.A. *et al.* (1995) J. Exp. Med. **181**:2213.
2. Zimmerman, A.W. *et al.* (2006) Blood **107**:3212.
3. van Kilsdonk, J.W.J. *et al.* (2008) Cancer Res. **68**:3671.
4. Ikeda, K. and T. Quertermous (2004) J. Biol. Chem. **279**:55315.
5. van Kempen, L.C. *et al.* (2001) J. Biol. Chem. **276**:25783.
6. Castro, M.A.A. *et al.* (2007) J. Immunol. **178**:4351.
7. Nair, P. *et al.* (2010) Clin. Exp. Immunol. **162**:116.
8. Masedunskas, A. *et al.* (2006) FEBS Lett. **580**:2637.
9. Cayrol, R. *et al.* (2008) Nat. Immunol. **9**:137.
10. Degen, W.G. *et al.* (1998) Am. J. Pathol. **152**:805.
11. King, J.A. *et al.* (2010) Mol. Cancer **9**:266.
12. Buhusi, M. *et al.* (2009) J. Neurosci. **29**:15630.
13. Iolyeva M. *et al.* (2013) FASEB J. **27**:978.

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