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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

NCAM1/CD56 (human, recombinant)

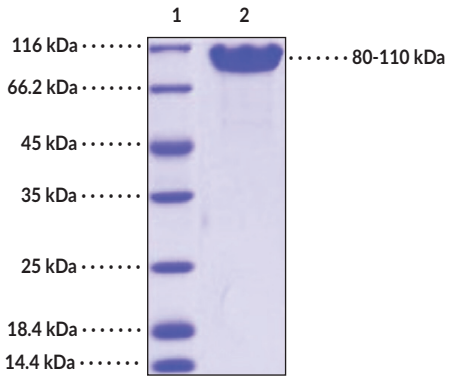
Item No. 38056

Overview and Properties

Synonyms:	Cluster of Differentiation 56, Neural Cell Adhesion Molecule 1
Source:	Recombinant human C-terminal His-tagged NCAM1 expressed in HEK293 cells
Amino Acids:	20-603
Uniprot No.:	P13591
Molecular Weight:	66.1 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	< 1.0 EU/µg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: NCAM1/CD56

SDS-PAGE Analysis of NCAM1/CD56. This protein has an apparent molecular weight of 80-110 kDa by SDS-PAGE under reducing conditions due to glycosylation.

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PRODUCT INFORMATION

Description

CD56, also known as neural cell adhesion molecule 1 (NCAM1), is a cell surface glycoprotein and member of the immunoglobulin superfamily that is involved in cellular adhesion and neural development.[1-3] Alternative splicing of the *NCAM1* pre-mRNA produces several isoforms, including two transmembrane isoforms of 180 and 140 kDa, NCAM-180 and NCAM-140, respectively, that differ in size of the cytoplasmic domain, and a 120 kDa isoform, NCAM-120, that lacks the cytoplasmic domain and is linked to the plasma membrane by a glycosylphosphatidylinositol (GPI) anchor.[1] CD56 is composed of an extracellular N-terminal domain containing five immunoglobulin-like (Ig-like) domains and two fibronectin type III domains that mediate homophilic and heterophilic interactions, a transmembrane domain, and an intracellular C-terminal signaling domain.[2,4] It is used as a marker for neural and natural killer (NK) cells, but is also expressed by other immune cells, including monocytes, T cells, and dendritic cells (DCs), as well as tumor cells, in an isoform-dependent manner.[1,2,4] CD56 is increased on NK cells by stimulation with IL-15 or IL-2 and correlates with upregulation of the NK cell activating receptors NKG2D, NKp30, and NKp46 and NK cell-mediated cytotoxicity.[1,4] Homophilic CD56 interactions induce neurite outgrowth of cerebellar neurons and promote NK cell-mediated tumor cell lysis *in vitro*.[1-4] The frequency of peripheral blood CD56^{bright} NK cells is increased in patients with melanoma and associated with reduced overall survival.[5] Cayman's NCAM1/CD56 (human, recombinant) protein consists of 591 amino acids, has a calculated molecular weight of 66.1 kDa, and a predicted N-terminus of Leu20 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 80-110 kDa due to glycosylation.

References

1. Van Acker, H.H., Capsomidis, A., Smits, E.L., *et al.* CD56 in the immune system: More than a marker for cytotoxicity? *Front. Immunol.* **8**, 892 (2017).
2. Kitlevsen, D.K., Povlsen, G.K., Berezin, V., *et al.* NCAM-induced intracellular signaling revisited. *J. Neurosci. Res.* **86(4)**, 727-743 (2008).
3. Williams, E.J., Furness, J., Walsh, F.S., *et al.* Activation of the FGF receptor underlies neurite outgrowth stimulated by L1, N-CAM, and N-cadherin. *Neuron* **13(3)**, 583-594 (1994).
4. Van Acker, H.H., Van Acker, Z.P., Versteven, M., *et al.* CD56 homodimerization and participation in anti-tumor immune effector cell functioning: A role for interleukin-15. *Cancers (Basel)* **11(7)**, 1029 (2019).
5. de Jonge, K., Ebering, A., Nassiri, S., *et al.* Circulating CD56 bright NK cells inversely correlate with survival of melanoma patients. *Sci. Rep.* **9(1)**, 4487 (2019).

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