

# PRODUCT INFORMATION

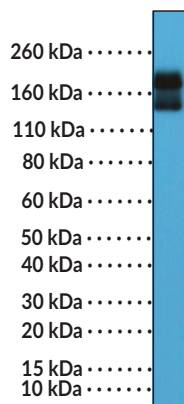


## NCAM1/CD56 (C-Term) Rabbit Monoclonal Antibody (Clone RM315) Item No. 32257

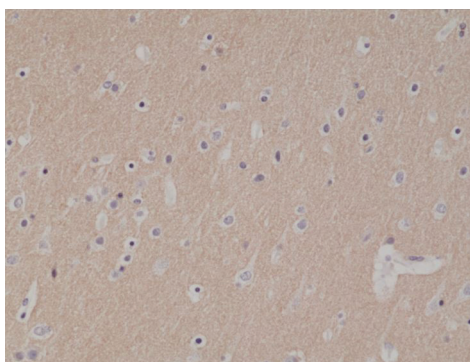
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Cluster of Differentiation 56, Neural Cell Adhesion Molecule 1
<b>Immunogen:</b>	Peptide from the C-terminal region of human CD56
<b>Cross Reactivity:</b>	(+) Human NCAM-180, NCAM-140; (-) Human NCAM-120
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM315
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



WB of human brain tissue lysates using NCAM1/CD56 (C-Term) Rabbit Monoclonal Antibody (Clone RM315) at a dilution of 1:2,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using NCAM1/CD56 (C-Term) Rabbit Monoclonal Antibody (Clone RM315) at a dilution of 1:1,000.

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## 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.<sup>1-3</sup> 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.<sup>1</sup> 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.<sup>2,4</sup> 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.<sup>1,2,4</sup> 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.<sup>1,4</sup> Homophilic CD56 interactions induce neurite outgrowth of cerebellar neurons and promote NK cell-mediated tumor cell lysis *in vitro*.<sup>1-4</sup> The frequency of peripheral blood CD56<sup>bright</sup> NK cells is increased in patients with melanoma and associated with reduced overall survival.<sup>5</sup> Cayman's NCAM1/CD56 (C-Term) Rabbit Monoclonal Antibody (Clone RM315) can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes NCAM-180 and NCAM-140 from human samples.

## 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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