

# PRODUCT INFORMATION



## CD48 Long Isoform (human, recombinant)

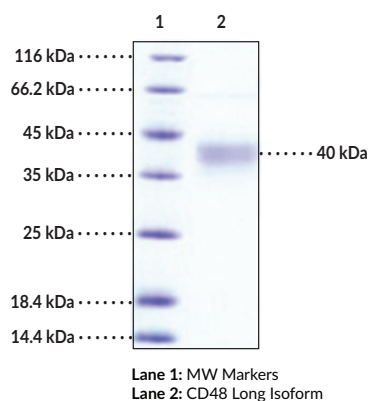
Item No. 31833

### Overview and Properties

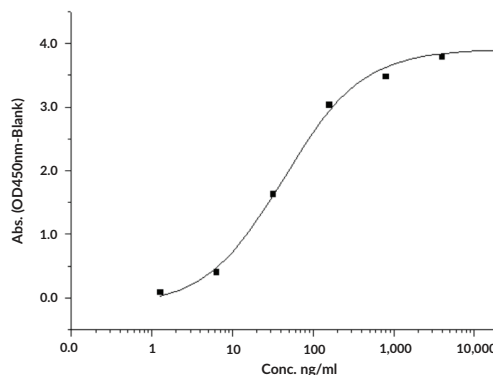
**Synonyms:** BCM1, BLAST, Blast-1, MEM-102, SLAMF2  
**Source:** Active recombinant C-terminal His-tagged CD48 expressed in HEK293 cells  
**Amino Acids:** 27-220  
**Uniprot No.:** P09326  
**Molecular Weight:** 23.8 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥1 year  
**Purity:** ≥95 % 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  
**Bioactivity:** See figures for details

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

### Images



**SDS-PAGE Analysis of CD48 Long Isoform.** This protein has a calculated molecular weight of 23.8 kDa. It has an apparent molecular weight of approximately 40 kDa by SDS-PAGE under reducing conditions due to glycosylation.



**Measured by its binding ability in a functional ELISA.** Immobilized human CD48 at 10 μg/ml (100 μl/well) can bind 2B4/CD244 Extracellular Domain (human, recombinant (Item No. 31820) protein with a linear range of 0.004-0.4 μg/ml.

**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

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CD48 is a glycoprotein and member of the signaling lymphocyte activation marker (SLAM) family that has diverse roles in innate and adaptive immunity.<sup>1</sup> Alternative splicing of CD48 pre-mRNA produces one full-length isoform, CD48 long, and a short isoform, in humans.<sup>1</sup> CD48 long is comprised of an extracellular N-terminal immunoglobulin (Ig) variable-like (IgV) domain that mediates heterophilic interactions, an Ig constant 2-like 2 (IgC2) domain, and a glycosylphosphatidylinositol (GPI) anchor that localizes CD48 to the cell membrane and facilitates intracellular signaling.<sup>1,2</sup> It is constitutively expressed on most human hematopoietic cells, including monocytes, neutrophils, and lymphocytes, and is localized to lipid rafts.<sup>1</sup> CD48 is upregulated by inflammatory conditions, including cytokine stimulation, as well as bacterial or viral infection.<sup>1</sup> It binds the co-stimulatory molecule CD2 on T cells and natural killer (NK) cells to promote immune synapse formation and T cell receptor signaling, as well as the bacterial lectin FimH, to enhance pathogen clearance. CD48 also binds CD244 on NK cells and certain subsets of T cells, regulating the activation and cytolytic function of these cells. CD48 levels are increased on plasma cells isolated from patients with multiple myeloma, and neutralization of CD48 with a monoclonal antibody reduces tumor growth in an OPM-2 mouse xenograft model.<sup>3</sup> It is also increased on blood eosinophils in patients with atopic asthma.<sup>1</sup> Cayman's CD48 long isoform (human, recombinant) protein can be used for binding assay applications. This protein consists of 205 amino acids, has a calculated molecular weight of 23.8 kDa, and a predicted N-terminus of Gln27 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 40 kDa due to glycosylation.

## References

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1. McArdel, S.L., Terhorst, C., and Sharpe, A.H. Roles of CD48 in regulating immunity and tolerance. *Clin. Immunol.* **164**, 10-20 (2016).
2. Chattopadhyay, K., Lazar-Molnar, E., Yan, Q., *et al.* Sequence, structure, function, immunity: Structural genomics of costimulation. *Immunol. Rev.* **229(1)**, 356-386 (2009).
3. Hosen, N., Ichihara, H., Mugitani, A., *et al.* CD48 as a novel molecular target for antibody therapy in multiple myeloma. *Br. J. Haematol.* **156(2)**, 213-224 (2012).