

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse CD300d protein		
	Mouse CD300d (Asn20-Leu172) Accession # BAF46249.1	IEGRMDP	Mouse IgG _{2a} (Glu98-Lys330)
	N-terminus		C-terminus
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	44 kDa		

SPECIFICATIONS

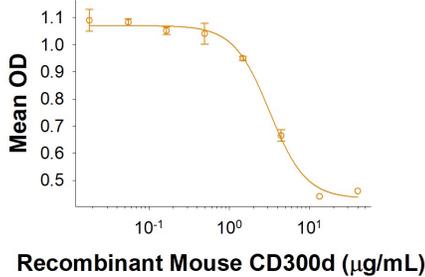
SDS-PAGE	48-66 kDa, under reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED ₅₀ for this effect is 1-10 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 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. <ul style="list-style-type: none"> • 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.

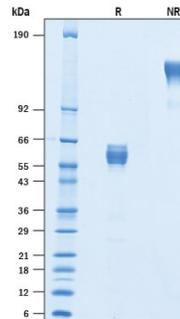
DATA

Bioactivity



Recombinant Mouse CD300d Fc Chimera (Catalog # 10310-LM) inhibits anti-CD3 antibody induced IL-2 secretion by human T cells. The ED₅₀ for this effect is 1-10 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse CD300d Fc Chimera (Catalog # 10310-LM) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 48-66 kDa and 100-130 kDa, respectively.

BACKGROUND

CD300d (also known as CD300LD or CMRF35A4) is a member of the CD300 family of transmembrane glycoproteins belonging to the immunoregulatory signaling (IRS) family. CD300d, like most CD300 family members, is found exclusively on myeloid cells, including monocyte and granulocytes (1). CD300 members contain a V-type immunoglobulin-like domain with an additional pair of cysteine residues in the extracellular domain (ECD), a transmembrane region, and a short cytoplasmic tail (2, 3). The mature ECD of human CD300d is 146 amino acids (aa) and shares a 48% and 45% identity with mouse and rat CD300d, respectively. CD300d recruits ITAM-bearing Adaptor FcεRγ. CD300d interacts with all CD300 family members with exception of CD300c, and plays a role in the regulation and/or formation of CD300 complexes on the cell surface and consequently modulate the state of activation of myeloid cells. CD300 family members modulate a broad and diverse array of immune cell processes via their paired activating and inhibitory receptor functions (2, 3). Mouse CD300d, along with CD300lf, has been identified as a receptor for permissive murine noroviral infection (MNoV) (4). Further, expression of murine CD300LF on human and other mammalian cell lines confers cross-species permissively (5). Additional research into CD300 family member function during viral infections could help develop novel anti-viral therapies (6). Our in-house data indicate that CD300D inhibits T cell activation, including anti-CD3 induced IL-2 and IFN-gamma secretion.

References:

1. Comas-Casellas, E. *et al.* 2011. *J. Biol. Chem.* **287**:9682.
2. Clark, G.J. *et al.* (2009) *Trends in Immunology* **30**:209.
3. Borrego F. (2013) *Blood* **121**:1951.
4. Haga, K. *et al.* 2016. *PNAS.* **113**:E6248.
5. Orchard, R. *et al.* 2016. *Science.* **353**:933.
6. Graziano, V *et al.* 2019. *Viruses.* **11**:pii.