

**KO453**

For research use only

# Anti Mouse Semaphorin 4D (CD100) Monoclonal Antibody

**Clone No. SK-3**

<b>Code No.</b>	KO453
<b>Target</b>	Semaphorin 4D
<b>Category</b>	Neuroscience
<b>Gene ID</b>	20354
<b>Primary Source</b>	MGI:109244
<b>Synonyms</b>	CD100; Semaj; Semcl2; coll-4; Semacl2; Sema4d
<b>Type</b>	Monoclonal Antibody
<b>Immunogen</b>	Recombinant protein of Mouse Semaphorin 4D extracellular domain
<b>Raised in</b>	Sema4D deficient mouse
<b>Myeloma</b>	P3U1
<b>Clone number</b>	SK-3
<b>Purification</b>	ProteinG
<b>Source</b>	Serum-free medium
<b>Isotype</b>	IgG1k
<b>Cross Reactivity</b>	Human
<b>Label</b>	Unlabeled
<b>Concentration</b>	0.25 mg/mL
<b>Contents (Volume)</b>	25 µg (100 µL/vial)
<b>Buffer</b>	PBS [containing 2% Block Ace as a stabilizer, 0.1% Proclin as a bacteriostat]
<b>Storage</b>	Store below -20°C. Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided.
<b>Application</b>	ELISA,IP,FCM

ELISA	WB	IHC	ICC
1-10	Not tested	Not tested	Not tested
IP	FCM	IF	Neutralization
5	0.05	Not tested	Not tested

(µg/mL)

## Reference

1. Kumanogoh A, et al. Identification of CD72 as a lymphocyte receptor for the class IV semaphorin CD100: a novel mechanism for regulating B cell signaling. *Immunity*. 2000 Nov;13(5):621-31.
2. Kumanogoh A, et al. Requirement for the lymphocyte semaphorin, CD100, in the induction of antigen-specific T cells and the maturation of dendritic cells. *J Immunol*. 2002 Aug 1;169(3):1175-81.
3. Kumanogoh A, et al. Requirement for CD100-CD72 interactions in fine-tuning of B-cell antigen receptor signaling and homeostatic maintenance of the B-cell compartment. *Int Immunol*. 2005 Oct;17(10):1277-8

## UniPlot Summary

Semaphorins are a family of phylogenetically conserved soluble and transmembrane proteins. Semaphorins were originally identified as axon guidance factors during neuronal development. Semaphorins are now known to be widely expressed mediators that play significant roles in immune responses and organ morphogenesis.

Sema4D (also known as CD100) is a 150-kDa transmembrane protein of the class IV semaphorin subfamily. Sema4D is expressed at high levels in lymphoid organs, including the spleen, thymus, and lymph nodes, and in non-lymphoid organs, such as the brain, heart, and kidney. In lymphoid organs, Sema4D is expressed abundantly by T cells but weakly by B cells. Its expression is significantly enhanced in both T and B cells, following their respective activation.

Sema4D is proteolytically cleaved from their transmembrane form to generate 120-kDa soluble forms. Two types of receptors, Plexin-B1 and CD72, have been identified for soluble Sema4D.