

Datasheet: MCA5706

BATCH NUMBER L0915

Description:	HAMSTER ANTI MOUSE DELTA-LIKE PROTEIN 4
Specificity:	DELTA-LIKE PROTEIN 4
Other names:	DLL4
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	HMD4-2
Isotype:	IgG
Quantity:	0.25 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			
Immunohistology - Frozen	▪			
Immunohistology - Paraffin (1)	▪			
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Functional Assays	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1)This product requires antigen retrieval using heat treatment prior to staining of paraffin sections.Sodium citrate buffer pH 6.0 is recommended for this purpose.

Target Species	Mouse
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A
Buffer Solution	Phosphate buffered saline

Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0mg/ml
Immunogen	Recombinant mouse DLL4.
External Database Links	<p>UniProt: Q9JI71 Related reagents</p> <p>Entrez Gene: 54485 Dll4 Related reagents</p>
RRID	AB_10708982
Fusion Partners	Spleen cells from immunised Armenian hamsters were fused with cells of the P3U1 myeloma cell line.
Specificity	<p>Hamster anti Mouse Delta-Like Protein 4 antibody, clone HMD4-2 recognizes mouse Delta-like protein 4 (DLL4), one of the five major ligands of the Notch signalling pathway, which is activated through the binding of specific ligands to the Notch receptors Notch 1-4.</p> <p>The Notch signalling pathway is an evolutionarily conserved pathway in multi-cellular organisms, which is vital for cell-cell communication, important during fundamental developmental and physiological processes, including regulation of cell fate decisions during neuronal, cardiac and endocrine development, stem cell haematopoiesis, thymic T-cell development, and both tumour progression and suppression.</p> <p>Ligation of Notch receptors by their specific ligands, Jagged1 (CD339), Jagged2, Delta like-1 (DLL1), DLL3 and DLL4, on physically adjacent signal receiving cells, induces proteolysis of the receptors by ADAM-family metalloproteases and gamma-secretase complex, within the transmembrane domain, releasing the Notch intracellular domain (NICD) to translocate to the nucleus. Subsequent signal transduction then occurs through either the CSL-NICD-Mastermind complex cascade (canonical pathway), or NF-kappaB-NICD and CSL-NICD-Deltex complex signalling cascades (non-canonical pathway). The canonical pathway inhibits the differentiation of stem cells or progenitor cells, whilst the non-canonical pathway promotes differentiation.</p> <p>DLL4 is expressed by vascular endothelium, and plays a vital role in embryonic vascular development. DLL4 signalling has been shown to play a role in the angiogenesis of clear-cell renal tumours, and pancreatic, bladder and colonic cancer. Studies have shown that DLL4 expression in endothelium cells, can be up-regulated by vascular endothelial growth factor (VEGF) and basic-FGF, and by HIF1 alpha, and that blockade of DLL4 inhibits tumour growth by promoting non-productive angiogenesis.</p>

Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul.
Histology Positive Control Tissue	Mouse spleen
References	<ol style="list-style-type: none"> 1. Moriyama, Y. <i>et al.</i> (2008) Delta-like 1 is essential for the maintenance of marginal zone B cells in normal mice but not in autoimmune mice. Int Immunol. 20 (6): 763-73. 2. Sekine, C. <i>et al.</i> (2009) Differential regulation of splenic CD8- dendritic cells and marginal zone B cells by Notch ligands. Int Immunol. 21 (3): 295-301. 3. Yamanda, S. <i>et al.</i> (2009) Role of ephrinB2 in nonproductive angiogenesis induced by Delta-like 4 blockade. Blood. 113 (15): 3631-9. 4. Sekine, C. <i>et al.</i> (2012) Differential regulation of osteoclastogenesis by Notch2/Delta-like 1 and Notch1/Jagged1 axes. Arthritis Res Ther. 14: R45.
Further Reading	<ol style="list-style-type: none"> 1. Bray, S.J. (2006) Notch signalling: a simple pathway becomes complex. Nat Rev Mol Cell Biol. 7 (9): 678-89. 2. Iso, T. <i>et al.</i> (2003) Notch signaling in vascular development. Arterioscler Thromb Vasc Biol. 23 (4): 543-53. 3. Hu, X. <i>et al.</i> (2008) Integrated regulation of Toll-like receptor responses by Notch and interferon-gamma pathways. Immunity. 29 (5): 691-703. 4. Hoyne, G.F. <i>et al.</i> (2001) Notch signalling in the regulation of peripheral immunity. Immunol Rev. 182: 215-27.
Storage	<p>Store at +4°C or at -20°C if preferred.</p> <p>Storage in frost-free freezers is not recommended.</p> <p>This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.</p>
Guarantee	12 months from date of despatch
Health And Safety Information	<p>Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA5706</p> <p>10040</p>
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Hamster IgG (STAR104...) [DyLight@550](#), [DyLight@650](#), [DyLight@800](#), [FITC](#)

Goat Anti Hamster IgG (STAR79...) [Biotin](#), [FITC](#), [HRP](#)

Recommended Negative Controls

[HAMSTER \(ARMENIAN\) IgG NEGATIVE CONTROL \(MCA2356\)](#)

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)

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