

Datasheet: MCA5705GA

Description:	HAMSTER ANTI MOUSE DELTA-LIKE PROTEIN 1
Specificity:	DELTA-LIKE PROTEIN 1
Other names:	DLL1
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	HMD1-5
Isotype:	IgG
Quantity:	0.1 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			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Functional Assays (1)	▪			

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 contains sodium azide, removal by dialysis is recommended prior to use in functional assays. Bio-Rad recommend the use of [EQU003](#) for this purpose.**

Target Species	Mouse
Species Cross Reactivity	Reacts with: Rat Reacts weakly with: Human N.B. Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃)

Approx. Protein Concentrations	IgG concentration 1.0mg/ml
Immunogen	DLL1-expressing CHO cells.
External Database Links	<p>UniProt:</p> <p>Q61483 Related reagents</p> <p>P97677 Related reagents</p> <p>O00548 Related reagents</p> <p>Entrez Gene:</p> <p>13388 DII1 Related reagents</p> <p>84010 DII1 Related reagents</p> <p>28514 DLL1 Related reagents</p>
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 1 antibody, clone HMD1-5 recognizes Delta-like protein 1 (DLL1), one of the five major ligands of the Notch signaling pathway, which is activated through the binding of specific ligands to the Notch receptors Notch 1-4.</p> <p>The Notch signaling 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 hematopoiesis, thymic T-cell development, and both tumor progression and suppression.</p> <p>Ligation of Notch receptors by their specific ligands, Jagged1 (CD339), Jagged2, Delta-like protein 1 (DLL1), DLL3 and DLL4, on physically adjacent signal receiving cells, induces proteolysis of the receptors by ADAM-family metalloproteases and the 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 signaling 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>DLL1 is widely expressed, and acts as a mediator of cell fate decisions during hematopoiesis, and may play a role in cell-to-cell communication in mammalian embryos. DLL1 plays an important role in B and T cell differentiation, in embryonic somite formation and patterning, and associates with the scaffolding protein MAGI1 at adherens junctions on neuronal processes. Signaling through DLL1 and Notch 2 has been implicated in the development of marginal zone B cells (MZB).</p> <p>Hamster anti Mouse Delta-Like Protein 1 antibody, clone HMD1-5 blocks binding of Notch2 to DII1 (Moriyama et al. 2008)</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10 ⁶ cells in 100ul.
Histology Positive Control Tissue	Mouse spleen

References

1. Moriyama, Y. *et al.* (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. *et al.* (2009) Differential regulation of splenic CD8- dendritic cells and marginal zone B cells by Notch ligands. [Int Immunol. 21 \(3\): 295-301.](#)
3. Sekine, C. *et al.* (2012) Differential regulation of osteoclastogenesis by Notch2/Delta-like 1 and Notch1/Jagged1 axes. [Arthritis Res Ther. 14: R45.](#)

Further Reading

1. Bray, S.J. (2006) Notch signalling: a simple pathway becomes complex. [Nat Rev Mol Cell Biol. 7 \(9\): 678-89.](#)
2. Iso, T. *et al.* (2003) Notch signaling in vascular development. [Arterioscler Thromb Vasc Biol. 23 \(4\): 543-53.](#)
3. Hu, X. *et al.* (2008) Integrated regulation of Toll-like receptor responses by Notch and interferon-gamma pathways. [Immunity. 29 \(5\): 691-703.](#)
4. Hoyne, G.F. *et al.* (2001) Notch signalling in the regulation of peripheral immunity. [Immunol Rev. 182: 215-27.](#)

Storage

Store at +4°C or at -20°C if preferred.
Storage in frost-free freezers is not recommended.
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.

Shelf Life

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at:
10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Hamster IgG (STAR104...) [DyLight®549](#), [DyLight®649](#), [DyLight®800](#),
[FITC](#)

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

Recommended Negative Controls

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

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