

Datasheet: MCA5705PE

Description:	HAMSTER ANTI MOUSE DELTA-LIKE PROTEIN 1:RPE
Specificity:	DELTA-LIKE PROTEIN 1
Other names:	DLL1
Format:	RPE
Product Type:	Monoclonal Antibody
Clone:	HMD1-5
Isotype:	IgG
Quantity:	100 TESTS

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	■			

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.

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 conjugated to R. Phycoerythrin (RPE) - lyophilized								
Reconstitution	Reconstitute with 1.0ml distilled water								
Max Ex/Em	<table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>RPE 488nm laser</td> <td>496</td> <td>578</td> </tr> </tbody> </table>	Fluorophore	Excitation Max (nm)	Emission Max (nm)	RPE 488nm laser	496	578		
Fluorophore	Excitation Max (nm)	Emission Max (nm)							
RPE 488nm laser	496	578							
Preparation	Purified IgG prepared by affinity chromatography on Protein G								
Buffer Solution	Phosphate buffered saline								
Preservative Stabilisers	0.09% Sodium Azide (NaN ₃) 1% Bovine Serum Albumin 5% Sucrose								
Immunogen	DLL1-expressing CHO cells.								

**External Database
Links**

UniProt:

[Q61483](#) [Related reagents](#)
[P97677](#) [Related reagents](#)
[O00548](#) [Related reagents](#)

Entrez Gene:

[13388](#) DII1 [Related reagents](#)
[84010](#) DII1 [Related reagents](#)
[28514](#) DLL1 [Related reagents](#)

Fusion Partners

Spleen cells from immunised Armenian hamsters were fused with cells of the P3U1 myeloma cell line.

Specificity

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.

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.

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.

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 MAG11 at adherens junctions on neuronal processes. Signaling through DLL1 and Notch 2 has been implicated in the development of marginal zone B cells (MZB).

Hamster anti Mouse Delta-Like Protein 1 antibody, clone HMD1-5 blocks binding of Notch2 to DII1 ([Moriyama et al. 2008](#))

Flow Cytometry

Use 10ul of the suggested working dilution to label 1×10^6 cells in 100ul.

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 Prior to reconstitution store at +4°C.
After reconstitution store at +4°C.
DO NOT FREEZE. This product should be stored undiluted. This product is photosensitive and should be protected from light. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life 12 months from date of reconstitution

Health And Safety Information Material Safety Datasheet documentation #10075 available at:
10075: <https://www.bio-rad-antibodies.com/uploads/MSDS/10075.pdf>

Regulatory For research purposes only

Related Products

Recommended Negative Controls

[HAMSTER \(ARMENIAN\) IgG NEGATIVE CONTROL:RPE \(MCA2356PE\)](#)

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