

## Datasheet: MCA5705

<b>Description:</b>	HAMSTER ANTI MOUSE DELTA-LIKE PROTEIN 1
<b>Specificity:</b>	DELTA-LIKE PROTEIN 1
<b>Other names:</b>	DLL1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	HMD1-5
<b>Isotype:</b>	IgG
<b>Quantity:</b>	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](http://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.**

### Target Species

Mouse

### Species Cross Reactivity

Reacts with: Rat

Reacts weakly with: Human

**N.B.** Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0mg/ml
<b>Immunogen</b>	DLL1-expressing CHO cells.
<b>External Database Links</b>	<p><b>UniProt:</b></p> <p><a href="#">Q61483</a>      <a href="#">Related reagents</a></p> <p><a href="#">P97677</a>      <a href="#">Related reagents</a></p> <p><a href="#">O00548</a>      <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b></p> <p><a href="#">13388</a>    DII1    <a href="#">Related reagents</a></p> <p><a href="#">84010</a>    DII1    <a href="#">Related reagents</a></p> <p><a href="#">28514</a>    DLL1    <a href="#">Related reagents</a></p>
<b>RRID</b>	AB_10708982
<b>Fusion Partners</b>	Spleen cells from immunised Armenian hamsters were fused with cells of the P3U1 myeloma cell line.
<b>Specificity</b>	<p><b>Hamster anti Mouse Delta-Like Protein 1 antibody, clone HMD1-5</b> 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</p>

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 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).

Hamster anti Mouse Delta-Like Protein 1 antibody, clone HMD1-5 blocks binding of Notch2 to Dll1 ([Moriyama et al. 2008](#))

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**Flow Cytometry** Use 10ul of the suggested working dilution to label 1x10<sup>6</sup> cells in 100ul.

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**Histology Positive Control Tissue** Mouse spleen

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**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.](#)

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**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.](#)

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**Storage** This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

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**Guarantee** 12 months from date of despatch

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

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**Regulatory** For research purposes only

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## Related Products

## Recommended Secondary Antibodies

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

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

## Recommended Negative Controls

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

**North & South** Tel: +1 800 265 7376

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