

Datasheet: MCA5706GA

BATCH NUMBER 147823

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| 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: | 0.1 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 (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.

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

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| 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_10707935 |
| 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> |

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| 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/MCA5706GA</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 \(MCA2356\)](#)

Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)

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| North & South America | Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com | Worldwide | Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com | Europe | Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com |
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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

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