

## Datasheet: MCA5707GA

<b>Description:</b>	HAMSTER ANTI MOUSE CD339
<b>Specificity:</b>	CD339
<b>Other names:</b>	JAGGED1
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	HMJ1-29
<b>Isotype:</b>	IgG
<b>Quantity:</b>	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](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	

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.

<b>Target Species</b>	Mouse
<b>Species Cross Reactivity</b>	Reacts with: Rat <b>N.B.</b> Antibody reactivity and working conditions may vary between species.
<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 1.0 mg/ml
<b>Immunogen</b>	Jagged1-expressing CHO cells.

**External Database  
Links**

**UniProt:**

[Q9QXX0](#)    [Related reagents](#)  
[Q63722](#)    [Related reagents](#)

**Entrez Gene:**

[16449](#) Jag1    [Related reagents](#)  
[29146](#) Jag1    [Related reagents](#)

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**Fusion Partners**

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

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**Specificity**

**Hamster anti Mouse CD339 antibody, clone HMJ1-29** specifically recognizes CD339, otherwise known as Jagged1, 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-Delta 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.

Jagged1 signaling is implicated in cell-fate decisions during hematopoiesis, as well as in both early and late stages of mammalian cardiovascular development, and is involved in the inhibition of myoblast differentiation. Studies have shown a significant increase in the expression of Jagged1 in metastatic prostate cancer, compared with localized prostate cancer or benign prostatic tissues, implicating Jagged1 as a biomarker to facilitate their differentiation.

In humans, mutations in the JAG1 gene are responsible for the autosomal dominant multisystem disorder Alagille syndrome 1 ([ALGS1](#))

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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.](#)
4. Koyanagi, A. *et al.* (2012) Expression of Notch receptors and ligands on immature and mature T

cells. [Biochem Biophys Res Commun. 418: 799-805.](#)

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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**

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.

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**Shelf Life**

18 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®549](#), [DyLight®649](#), [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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'M293629:160901'

Printed on 02 May 2018

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