

Datasheet: MCA2540GA

**BATCH NUMBER 155602**

<b>Description:</b>	MOUSE ANTI HUMAN PI-9
<b>Specificity:</b>	PI-9
<b>Other names:</b>	SERPINB9
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	7D8
<b>Isotype:</b>	IgG1
<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 (1)	▪			1/10 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin (2)	▪			1/50
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.

**(1)Membrane permeabilisation is required for this application. Bio-Rad recommends the use of Leucoperm™ (Product Code [BUF09](#)) for this purpose.**

**(2)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.**

<b>Target Species</b>	Human
<b>Species Cross Reactivity</b>	Does not react with:Pig, Mouse
<b>Product Form</b>	Purified IgG - liquid

<b>Preparation</b>	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
<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>	Recombinant PI-9 produced in <i>P. pastoris</i> .
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">P50453</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">5272</a>    SERPINB9    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	PI9
<b>RRID</b>	AB_2186599
<b>Fusion Partners</b>	Spleen cells from immunised Balb/c mice were fused with cells of the mouse NS-1 myeloma cell line.
<b>Specificity</b>	<p><b>Mouse anti Human PI-9 antibody, clone 7D8</b> recognizes human PI-9 (proteinase inhibitor 9), also known as SerpinB9, a ~42kDa intracellular nucleocytoplasmic serpin expressed in cytotoxic lymphocytes (CTLs), natural killer (NK) cells, monocyte-derived dendritic cells (DCs), and to a lesser extent in B cells and myeloid cells.</p> <p>Granzyme B (grB) is a serine protease highly expressed by CTLs and NK cells, which is endocytosed by virus-infected and malignant target cells. The subsequent release of grB from the endocytic vesicles into the cytoplasm of the target cells, triggers grB-mediated apoptosis, through cleavage of various cytoplasmic or nuclear proteins. PI-9, up-regulated in response to grB production and degranulation, has been identified as a potent inhibitor of Granzyme B-mediated apoptosis, providing a vital self-protection mechanism against the premature apoptosis of CTLs and NK cells by grB, which may escape into the cytoplasm of the effector cells themselves.</p> <p>Clone 7D8 has been reported to work in western blotting applications. Bio-Rad recommend the use of MCA2540GA for this purpose. Clone 7D8 is suitable for use in indirect Immunofluorescence (<a href="#">Hirst et al. 2003</a>).</p>
<b>Flow Cytometry</b>	Use 10ul of the suggested working dilution to label 1x10 <sup>6</sup> cells in 100ul.
<b>Histology Positive Control Tissue</b>	Tonsil

## References

1. Hirst, C.E. *et al.* (2001) Perforin-independent expression of granzyme B and proteinase inhibitor 9 in human testis and placenta suggests a role for granzyme B-mediated proteolysis in reproduction. [Mol Hum Reprod. 7: 1133-42.](#)
2. Hirst, C.E. *et al.* (2003) The intracellular granzyme B inhibitor, proteinase inhibitor 9, is up-regulated during accessory cell maturation and effector cell degranulation, and its overexpression enhances CTL potency. [J Immunol. 170 \(2\): 805-15.](#)
3. Heutinck, K.M. *et al.* (2012) SerpinB9 expression in human renal tubular epithelial cells is induced by triggering of the viral dsRNA sensors TLR3, MDA5 and RIG-I [Nephrol Dial Transplant. 27: 2746-54.](#)
4. Buzza, M.S. *et al.* (2001) The granzyme B inhibitor, PI-9, is present in endothelial and mesothelial cells, suggesting that it protects bystander cells during immune responses. [Cell Immunol. 210: 21-9.](#)
5. Pohjanen VM *et al.* (2013) Decreased expression of protease inhibitor 9, a granzyme B inhibitor, in celiac disease: a potential mechanism in enterocyte destruction and villous atrophy. [Int J Immunopathol Pharmacol. 26 \(4\): 897-905.](#)

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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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## Guarantee

12 months from date of despatch

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## Health And Safety Information

Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA2540GA>  
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## Regulatory

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

- |   |   |
|---|---|
| Rabbit Anti Mouse IgG (STAR12...)       | <a href="#">RPE</a>   |
| Goat Anti Mouse IgG IgA IgM (STAR87...) | <a href="#">HRP</a>   |
| Goat Anti Mouse IgG (STAR76...)         | <a href="#">RPE</a>   |
| Rabbit Anti Mouse IgG (STAR13...)       | <a href="#">HRP</a>   |
| Goat Anti Mouse IgG (STAR70...)         | <a href="#">FITC</a>  |
| Goat Anti Mouse IgG (H/L) (STAR117...)  | <a href="#">Alk. Phos.</a> , <a href="#">DyLight®488</a> , <a href="#">DyLight®550</a> ,<br><a href="#">DyLight®650</a> , <a href="#">DyLight®680</a> , <a href="#">DyLight®800</a> ,<br><a href="#">FITC</a> , <a href="#">HRP</a> |
| Rabbit Anti Mouse IgG (STAR9...)        | <a href="#">FITC</a>  |
| Goat Anti Mouse IgG (STAR77...)         | <a href="#">HRP</a>   |
| Goat Anti Mouse IgG (Fc) (STAR120...)   | <a href="#">FITC</a> , <a href="#">HRP</a>  |

### Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

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batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)

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