Datasheet: MCA2540A488

Description:	MOUSE ANTI HUMAN PI-9:Alexa Fluor® 488
Specificity:	PI-9
Other names:	SERPINB9
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	7D8
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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 (1)	▪			Neat - 1/5

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.**

Target Species

Human

Species Cross Reactivity

Does not react with:Pig, Mouse

Product Form

Purified IgG conjugated to Alexa Fluor® 488

Max Ex/Em

Fluorophore	Emission Max (nm)	Excitation Max (nm)
Alexa Fluor®488	519	495

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide (NaN_3)
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.05mg/ml

Immunogen

Recombinant PI-9 produced in *P. pastoris*.

External Database Links	**UniProt:** P50453 Related reagents **Entrez Gene:** 5272 SERPINB9 Related reagents
Synonyms	PI9
Fusion Partners	Spleen cells from immunised Balb/c mice were fused with cells of the mouse NS-1 myeloma cell line.
Specificity	**Mouse anti Human PI-9 antibody, clone 7D8** 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. 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. 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 (Hirst *et al.* 2003).
Flow Cytometry	Use 10ul of the suggested working dilution to label 1x10^6 cells in 100ul.
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.
Storage	Store at +4^{o}C or at -20^{o}C if preferred. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light. 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.
Shelf Life	18 months from date of despatch.
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Health And Safety Information	Material Safety Datasheet documentation available at: Material Safety Datasheet Documentation #10041 available at: https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 488 (MCA928A488)

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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