

Datasheet: MCA6040

Description:	MOUSE ANTI PAN UBIQUITIN
Specificity:	PAN UBIQUITIN
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	P4D1
Isotype:	IgG1
Quantity:	50 µg

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
Immunoprecipitation	■			
Western Blotting	■			1/1000
Immunocytochemistry	■			

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.

Target Species	Broad
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.01% Sodium Azide (NaN ₃)
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Denatured bovine ubiquitin
Specificity	Mouse anti pan ubiquitin antibody, clone P4D1 recognizes both mono- and polyubiquitin chains. The antibody has also been reported to recognize free polyubiquitin chains and free ubiquitin. Ubiquitin, as the name implies, is a ubiquitously expressed and highly conserved protein of 8.6 kDa. The protein is covalently linked to selected lysine residues in a post-translational modification process known as ubiquitylation or ubiquitination. This chemical reaction is mediated by three

different protein families; ubiquitin-activating enzymes (also known as E1s), ubiquitin-conjugating enzymes (also known as E2s) and ubiquitin ligases (also known as E3s) ([Hershko and Ciechanover 1998](#)).

The impact of ubiquitination depends on whether a single ubiquitin moiety (monoubiquitination) or an ubiquitin chain (polyubiquitination) has been attached to a protein. Monoubiquitination tends to trigger cellular processes related to endocytosis and membrane trafficking ([Haglund *et al.* 2003](#)) while the impact of polyubiquitination varies depending on how the ubiquitin residues in the chain have been linked. Attachment of Lysine-48 ubiquitin chains results in degradation by the 20S proteasome while addition of Lysine-63 ubiquitin chains mediates DNA damage and NFkappaB signaling ([Chen 2005](#) and [Mocciaro and Rape 2012](#)). Lysine-6, Lysine-11, Lysine-27, Lysine-29 and Lysine-33 chains have also been reported ([Komander 2009](#) and [Ye and Rape 2011](#)).

When comparing staining of mouse anti pan ubiquitin antibody (clone P4D1) against staining with mouse anti polyubiquitin antibody (clone FK1) one can determine, if a protein target is mono- or polyubiquitinated. In contrast to mouse anti mono- and polyubiquitin antibody (FK2), clone P4D1 also recognizes free ubiquitin.

Western Blotting	Mouse anti pan ubiquitin recognizes mono- and poly-ubiquitin protein conjugates, free polyubiquitin chains and free ubiquitin by Western Blot. Use of milk based blocking reagents is not recommended. 1% BSA in PBS or TBS Tween should be used instead.
References	1. Fujimuro, M. <i>et al</i> (1994) Production and characterization of monoclonal antibodies specific to multi-ubiquitin chains of polyubiquitinated proteins. FEBS Lett. 349 (2):173-80. 2. Wang, H. <i>et al.</i> (2008) Analysis of nondegradative protein ubiquitylation with a monoclonal antibody specific for lysine-63-linked polyubiquitin. Proc Natl Acad Sci U S A. 105 (51): 20197-202.
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.
Shelf Life	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation available at: Material Safety Datasheet documentation #10040 available at https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®549 , DyLight®649 , DyLight®680 , DyLight®800 , FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Human Anti Mouse IgG1 (HCA036...)	HRP

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