Datasheet: MCA6040

BATCH NUMBER 180424

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. *et al* (1994) Production and characterization of monoclonal antibodies specific to multi-ubiquitin chains of polyubiquitinated proteins. FEBS Lett. 349 (2):173-80. 2. Wang, H. *et al.* (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.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA6040 10040

Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP

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