

## Datasheet: MCA6040

<b>Description:</b>	MOUSE ANTI PAN UBIQUITIN
<b>Specificity:</b>	PAN UBIQUITIN
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	P4D1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Broad
<b>Product Form</b>	Purified IgG - liquid
<b>Preparation</b>	Purified IgG prepared by ion exchange chromatography from tissue culture supernatant
<b>Buffer Solution</b>	Phosphate buffered saline
<b>Preservative Stabilisers</b>	<0.1% Sodium Azide (NaN <sub>3</sub> )
<b>Approx. Protein Concentrations</b>	IgG concentration 1.0 mg/ml
<b>Immunogen</b>	Denatured bovine ubiquitin
<b>Specificity</b>	<b>Mouse anti pan ubiquitin antibody, clone P4D1</b> 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.

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**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.

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**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.](#)

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**Storage**

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

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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: 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 Mouse IgG (STAR77...)	<a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR12...)	<a href="#">RPE</a>
Rabbit Anti Mouse IgG (STAR8...)	<a href="#">DyLight@800</a>
Goat Anti Mouse IgG (STAR76...)	<a href="#">RPE</a>
Goat Anti Mouse IgG (Fc) (STAR120...)	<a href="#">FITC</a> , <a href="#">HRP</a>
Goat Anti Mouse IgG IgA IgM (STAR87...)	<a href="#">Alk. Phos.</a> , <a href="#">HRP</a>
Rabbit Anti Mouse IgG (STAR13...)	<a href="#">HRP</a>
Goat Anti Mouse IgG (STAR70...)	<a href="#">FITC</a>
Rabbit Anti Mouse IgG (STAR9...)	<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> , <a href="#">DyLight@650</a> , <a href="#">DyLight@680</a> , <a href="#">DyLight@800</a> , <a href="#">FITC</a> , <a href="#">HRP</a>

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'M389679:210806'

Printed on 29 Aug 2021

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