

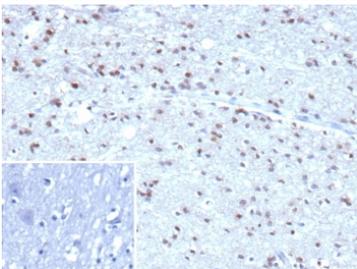
## Ubiquitin Antibody / UBB [clone rUBB/9476] (V5804)

Catalog No.	Formulation	Size
V5804-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5804-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5804SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

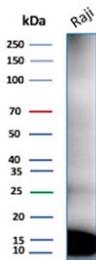
Recombinant **MOUSE MONOCLONAL**

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<b>Availability</b>	1-3 business days
<b>Species Reactivity</b>	Human
<b>Format</b>	Purified
<b>Host</b>	Mouse
<b>Clonality</b>	Recombinant Mouse Monoclonal
<b>Isotype</b>	Mouse IgG2b, kappa
<b>Clone Name</b>	rUBB/9476
<b>Purity</b>	Protein G affinity
<b>UniProt</b>	P62979, P62987
<b>Localization</b>	Cell membrane, cytoplasmic, nuclear
<b>Applications</b>	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
<b>Limitations</b>	This Ubiquitin antibody is available for research use only.



Immunohistochemistry analysis of Ubiquitin antibody in human brain tissue (clone rUBB/9476). FFPE human brain sections demonstrate scattered HRP-DAB brown staining within neuronal cell bodies and glial cells, with predominantly cytoplasmic signal and occasional nuclear staining consistent with ubiquitin localization in both cytoplasmic and nuclear protein pools. The staining pattern reflects the widespread distribution of ubiquitinated proteins in neural tissue. Background staining is minimal, and surrounding neuropil shows light diffuse signal. The inset image shows the PBS secondary-only negative control, confirming absence of specific staining in the control section. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to primary antibody incubation.



Western blot testing of human Raji tissue lysate with Ubiquitin antibody (clone rUBB/9476).

## Description

Ubiquitin antibody recognizes Ubiquitin, a highly conserved 76 amino acid protein encoded by the UBB gene and other ubiquitin precursor genes that plays a central role in protein homeostasis. Ubiquitin functions as a small regulatory protein that can be covalently attached to lysine residues on target proteins through an enzymatic cascade involving E1 activating enzymes, E2 conjugating enzymes, and E3 ligases. This post translational modification, known as ubiquitination, regulates protein stability, trafficking, signaling, and degradation.

Ubiquitination most commonly targets proteins for degradation by the 26S proteasome, particularly when polyubiquitin chains are formed through lysine 48 linkages. However, ubiquitin modifications can also regulate non degradative processes such as DNA repair, endocytosis, cell cycle progression, and signal transduction depending on the type of linkage and chain architecture. Lysine 63 linked ubiquitin chains, for example, are frequently associated with signaling pathways rather than proteasomal degradation. Through these diverse mechanisms, Ubiquitin is essential for maintaining cellular proteostasis and regulating dynamic biological responses.

The UBB gene encodes polyubiquitin precursor proteins that are processed to generate multiple ubiquitin monomers. Ubiquitin is ubiquitously expressed in virtually all cell types due to its fundamental role in cellular regulation. Dysregulation of ubiquitin pathways has been implicated in neurodegenerative disorders, inflammatory diseases, and cancer. Accumulation of ubiquitinated protein aggregates is a hallmark of certain neurodegenerative conditions, while aberrant ubiquitin mediated degradation of tumor suppressors or signaling molecules contributes to oncogenesis.

Ubiquitin is primarily localized in the cytoplasm and nucleus, where it is conjugated to substrate proteins and incorporated into ubiquitin chains. Ubiquitin antibody can detect both free ubiquitin and ubiquitin conjugated proteins depending on experimental context. The recombinant mouse monoclonal antibody clone rUBB/9476 is designed to detect Ubiquitin expression in research applications investigating proteasome function, protein turnover, stress responses, and ubiquitin signaling pathways. As a recombinant monoclonal antibody, clone rUBB/9476 supports consistent detection of UBB related ubiquitin protein across diverse biological samples.

## Application Notes

Optimal dilution of the Ubiquitin antibody should be determined by the researcher.

## Immunogen

A recombinant partial protein from human Ubiquitin protein (within amino acids 1-119) was used as the immunogen for the Ubiquitin antibody.

## Storage

Aliquot the Ubiquitin antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

