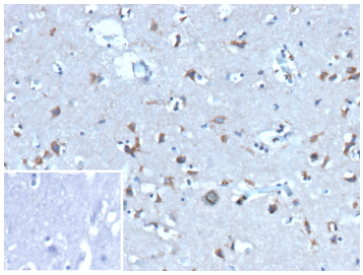
UBB Antibody / Ubiquitin B [clone rFPM1] (V6015)

Catalog No.	Formulation	Size
V6015-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6015-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6015SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

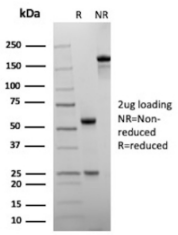
Recombinant MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rFPM1
UniProt	P0CG47
Localization	Cell membrane, Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This UBB/Ubiquitin antibody is available for research use only.



Immunohistochemistry analysis of UBB/Ubiquitin antibody in human brain tissue (clone rFPM1). FFPE human brain sections demonstrate scattered HRP-DAB brown staining within neuronal cell bodies and glial cells, with a predominantly cytoplasmic punctate pattern and minimal nuclear signal. The staining appears granular and localized within the cytoplasm of scattered neural cells against a lightly stained neuropil background, consistent with ubiquitinated protein aggregates and intracellular ubiquitin pools. Surrounding parenchyma shows low diffuse background staining. 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 10mM Tris with 1mM EDTA, pH 9.0, for 45 minutes at 95C followed by cooling at room temperature prior to primary antibody incubation.



SDS-PAGE Analysis of Purified UBB/Ubiquitin antibody (rFPM1). Confirmation of Purity and Integrity of Antibody.

Description

UBB antibody recognizes Ubiquitin, a highly conserved regulatory protein encoded by the UBB gene and other ubiquitin precursor genes that is essential for intracellular protein homeostasis. Ubiquitin is a 76 amino acid polypeptide that becomes covalently attached to substrate proteins through an enzymatic cascade involving E1 activating enzymes, E2 conjugating enzymes, and E3 ligases. This post translational modification, termed ubiquitination, controls protein degradation, cellular signaling, trafficking, and stress responses.

Ubiquitin functions through the formation of mono ubiquitin modifications or polyubiquitin chains. Polyubiquitin chains linked through lysine 48 commonly target proteins for degradation by the 26S proteasome, ensuring removal of misfolded or damaged proteins and regulating turnover of key cell cycle and signaling proteins. In contrast, alternative linkages such as lysine 63 chains participate in non degradative signaling pathways including DNA damage repair, inflammatory signaling, and receptor internalization. Through these structurally distinct chain types, Ubiquitin acts as a versatile modifier that influences numerous cellular processes.

The UBB gene encodes polyubiquitin precursor proteins that are processed to generate functional ubiquitin monomers. Because ubiquitin mediated regulation is fundamental to nearly all cell types, Ubiquitin is broadly expressed in normal tissues. Disruption of ubiquitin pathways has been implicated in neurodegenerative diseases characterized by accumulation of ubiquitinated protein aggregates, as well as in cancer, where altered ubiquitin dependent degradation of tumor suppressors and oncogenic proteins contributes to malignant progression.

Ubiquitin localizes to both the cytoplasm and nucleus, reflecting its involvement in proteasomal degradation, chromatin regulation, and transcriptional control. UBB antibody can detect free ubiquitin and ubiquitin conjugated proteins depending on experimental conditions. The recombinant mouse monoclonal antibody clone rFPM1 is designed to detect Ubiquitin expression in research applications focused on proteasome biology, protein turnover, cellular stress responses, and ubiquitin signaling pathways. As a recombinant monoclonal antibody, clone rFPM1 supports consistent evaluation of UBB associated ubiquitin protein in diverse biological samples.

Application Notes

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

2. This UBB/Ubiquitin antibody is recombinantly produced by expression in CHO cells.

Immunogen

Ubiquitin conjugated with glutaraldehyde crosslinked to keyhole limpet hemocyanin (KLH) was used as the immunogen for the UBB/Ubiquitin antibody.

Storage

UBB/Ubiquitin antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.