

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Ubiquitin/Ubiquitin+1 in Western blots..
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 83406
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Human Ubiquitin+1 synthetic peptide SSMQIFVKLTGKTTITLEVEPSTDIENVKAKIQDKKEIPDQQLIFAGKQ LEDGRTLSDYNIQKESTLHLVLRRLRGYADLREDPDRQDHPGSGAQ
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1-2 µg/mL	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below

## DATA

**Western Blot**

**Detection of Human Ubiquitin/Ubiquitin+1 by Western Blot.** Western blot shows samples of Recombinant Human Ubiquitin (Catalog # 701-UB) (2, 1, and 0.5 ng) and Recombinant Human Ubiquitin+1 (Catalog # 703-UB) (2, 1, and 0.5 ng). PVDF membrane was probed with 1-2 µg/mL Mouse Anti-Human Ubiquitin/Ubiquitin+1 Monoclonal Antibody (Catalog # MAB701) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). Specific bands for Ubiquitin and Ubiquitin+1 were detected at approximately 11 kDa and 13 kDa, respectively (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 9.

**Immunohistochemistry**

**Ubiquitin/Ubiquitin+1 in Human Alzheimer's Disease Brain.** Ubiquitin/Ubiquitin+1 was detected in immersion fixed paraffin-embedded sections of human Alzheimer's disease brain (cortex) using 25 µg/mL Mouse Anti-Human Ubiquitin/Ubiquitin+1 Monoclonal Antibody (Catalog # MAB701) overnight at 4 °C. Tissue was stained with the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counter-stained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of neurons in the cortex. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Ubiquitin+1 has a carboxyl terminal amino acid sequence that differs from normal Ubiquitin. The different carboxyl terminal sequence appears to result from a frameshift in the Ubiquitin mRNA. The underlying mechanisms creating the mRNA frameshift are not clearly understood. The occurrence of the frameshift that generates Ubiquitin+1 is much more prevalent in patients with Alzheimers Disease or with Down Syndrome than in control individuals who are not afflicted with the disorders. The monoclonal anti-Ubiquitin+1 (Catalog # MAB703) and rabbit polyclonal anti-Ubiquitin+1 (Catalog # AF703) antibodies were raised against the Ubiquitin+1 carboxyl terminal sequence that differs from normal Ubiquitin and are therefore non-reactive with Ubiquitin. Monoclonal anti-Ubiquitin (Catalog # MAB701) detects both Ubiquitin and Ubiquitin+1 indicating that the epitope recognized by this antibody is contained in the portion of the proteins that are identical.