

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Calponin 1 in ELISAs. Detects human, mouse and rat Calponin 1 in Western Blots. In direct ELISAs, no cross-reactivity with recombinant human Calponin 3 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>3</sub> Clone # 836701
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Calponin 1 Ser2-Ala297 Accession # P51911
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in TBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

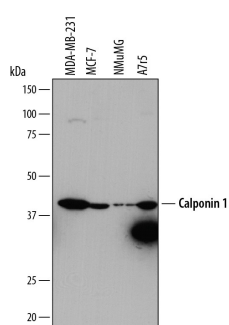
## APPLICATIONS

**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 µg/mL	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below

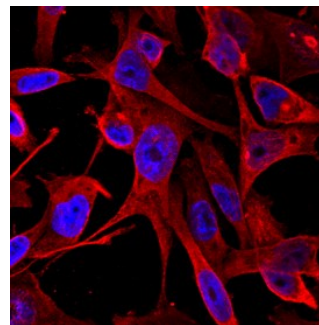
## DATA

### Western Blot



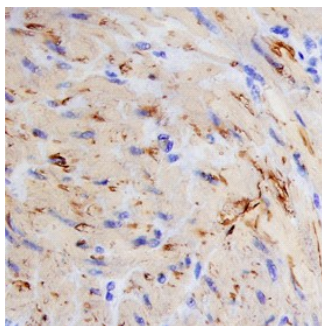
**Detection of Human, Mouse, and Rat Calponin 1 by Western Blot.** Western blot shows lysates of MDA-MB-231 human breast cancer cell line, MCF-7 human breast cancer cell line, NMuMG mouse mammary gland epithelial cell line, and A7r5 rat thoracic aortic smooth muscle cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Calponin 1 Monoclonal Antibody (Catalog # MAB7900) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Calponin 1 at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Immunocytochemistry



**Calponin 1 in MDA-MD-231 Human Cell Line.** Calponin 1 was detected in immersion fixed MDA-MD-231 human breast cancer cell line using Mouse Anti-Human Calponin 1 Monoclonal Antibody (Catalog # MAB7900) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the Northern-Lights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

### Immunohistochemistry



**Calponin 1 in Human Small Intestine.** Calponin 1 was detected in immersion fixed paraffin-embedded sections of human small intestine using Mouse Anti-Human Calponin 1 Monoclonal Antibody (Catalog # MAB7900) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of smooth muscle cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<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

CNN-1 (Calponin 1 [calcium and calmodulin-binding troponin T-like protein]; also Calponin basic, CaP and Calponin H1) is a 32-36 kDa cytoplasmic member of the calponin family of proteins. Although reportedly expressed in fibroblasts and endothelial cells, it actually appears to be restricted to smooth muscle and smooth muscle-like cells such as myoepithelium and myofibroblasts in the adult. CNN-1 interacts with F-actin in a phosphorylation-dependent manner. When nonphosphorylated, CNN-1 blocks actomyosin ATPase activity, contributing to the stabilization of actin stress fiber bundles. Thus, CNN-1 expression inhibits cell motility and the formation of podosomes. Human CNN-1 is 297 amino acids (aa) in length. It contains one CH/calponin homology domain (aa 30-127), and three consecutive calponin-like repeats (aa 164-268). The repeats are suggested to mediate actin binding. There are five potential Ser/Thr phosphorylation sites. Full-length human CNN-1 shares 97% aa sequence identity with mouse CNN-1.