R&D Systems
Tools for Cell Biology Research™

Human Calponin 1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7900

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Calponin 1 in direct ELISAs. In direct ELISAs, less than 5% cross-reactivity with recombinant human CNN-3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Calponin 1 Ser2-Ala297 Accession # P51911
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

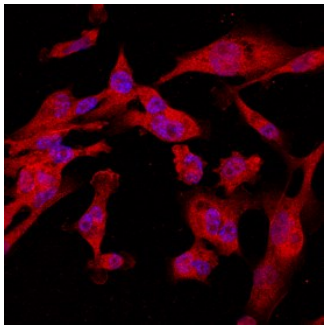
APPLICATIONS

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
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

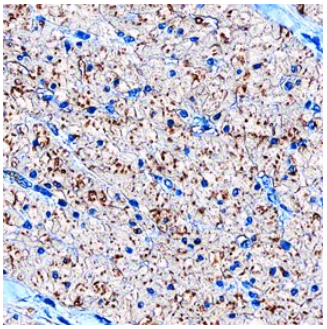
DATA

Immunocytochemistry



Calponin 1 in MDA-MB-231 Human Cell Line. Calponin 1 was detected in immersion fixed MDA-MB-231 human breast cancer cell line using Sheep Anti-Human Calponin 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7900) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) 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 Sheep Anti-Human Calponin 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7900) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to smooth muscle cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 myoepithalium 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.

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