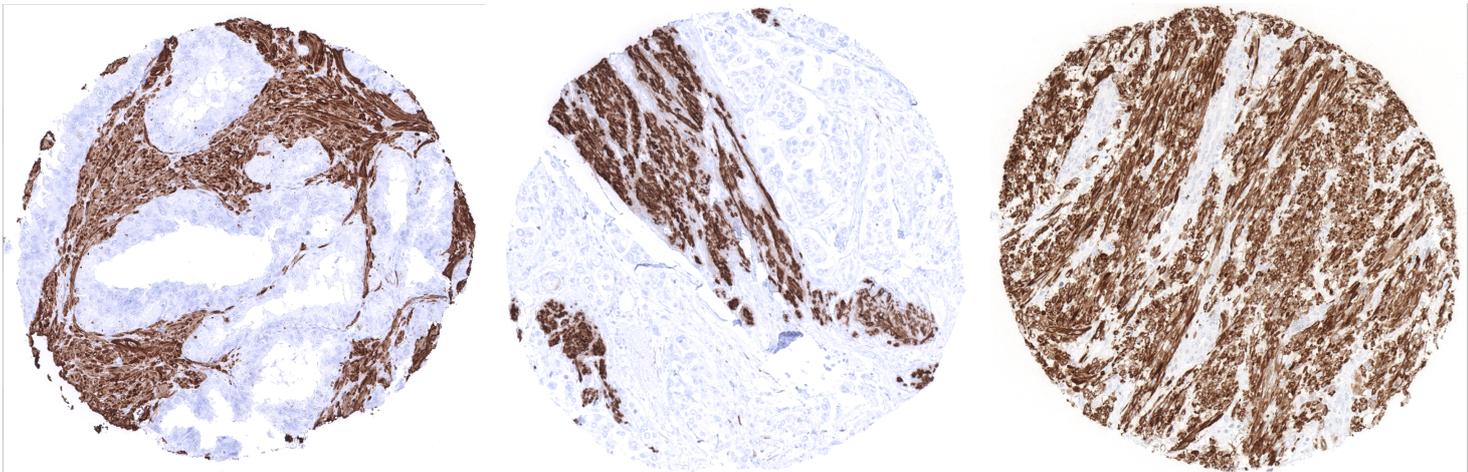


Anti-Calponin-1 Antibody MSVA-455R / Recombinant Rabbit monoclonal

Human SwissProt	P51911
Human Gene Symbol	CNN1
Synonyms	Calponin 1 basic smooth muscle; Calponin H1 smooth muscle; Calponin-1; CNN1; Cnn1; Sm Calp; SMCC
Specificity	Calponin-1
Immunogen	Recombinant human Calponin protein
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Cytoplasmic

Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	Intestinal tissue containing (muscular wall)
Negative Control	Intestinal tissue containing (epithelial cells)



Strong Calponin 1 immunostaining of smooth muscle in the seminal vesicle. Epithelial cells remain unstained.

Calponin 1 immunostaining of tumor infiltrated smooth muscle in a case of a micropapillary urothelial carcinoma.

Strong diffuse calponin 1 immunostaining in a leiomyosarcoma.

Biology

Calponin-1 is an actin filament-associated regulatory protein expressed in smooth muscle cells where it plays a role in fine-tuning smooth muscle contractility (26970176). Calponin 1 functions as an inhibitory regulator of smooth muscle contractility through inhibiting actin/myosin interactions. In this regulation, binding of Ca²⁺-calmodulin and protein kinase C phosphorylation dissociates calponin 1 from the actin filament and facilitates smooth muscle contraction (Naka et al., 1990). The expression of calponin 1 is highly specific to smooth muscle cells. The calponin-1 antibody MSVA-455rR strongly stains smooth muscle cells in all organs. This includes a positive staining reaction in all vessels that are large enough to contain smooth muscle cells. In the kidney, arterioles are stained. In addition, myoepithelial cells in the breast and in salivary glands bronchial glands stain positive. In some testicular samples a weak staining of Sertoli cells is seen. Tumors derived from smooth muscle cells mostly stain positive for calponin-1. Calponin-1 immunostaining is also often seen in other tumor samples. Positively stained cells include remnants of smooth muscle in the tumor environment, blood vessels, and myofibroblasts. These cell types are often seen in combination. Epithelial tumor cells are not stained.

Potential Research Applications

- The functional role of calponin-1 is not clear in smooth muscle tumors.
- The diagnostic utility of calponin-1 needs to be evaluated.
- The utility of calponin-1 immunohistochemistry for the distinction of myofibroblasts should be investigated.

Protocol Suggestions

Dilution: **1:150 pH 9** is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

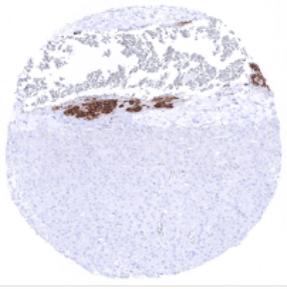
Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

Not for resale without express authorization.

Warranty

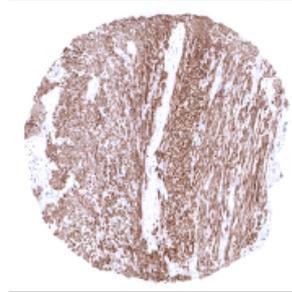
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



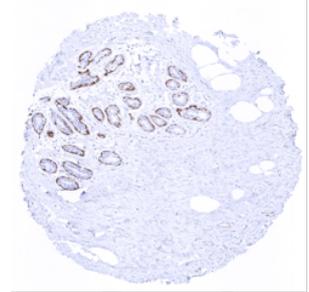
Adrenal gland - Calponin immunostaining is seen in the wall of a large vein



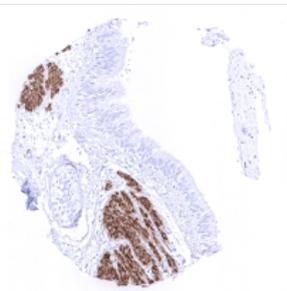
Aorta, media



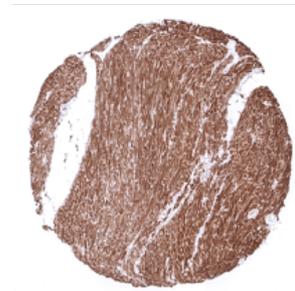
Appendix, muscular wall



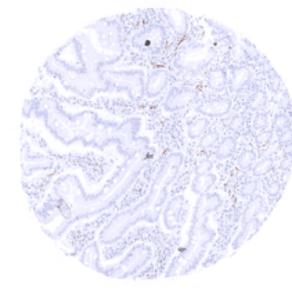
Breast - Calponin immunostaining is regularly seen in myoepithelial cells of the breast



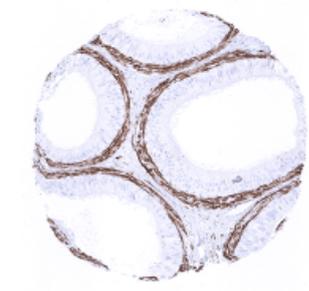
Bronchus, mucosa



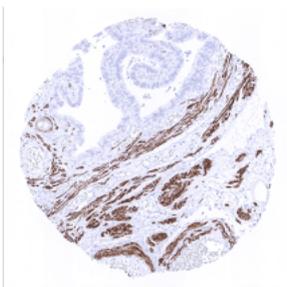
Colon descendens, muscular wall



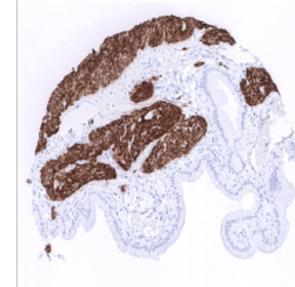
Duodenum, mucosa - Calponin immunostaining of small vessels



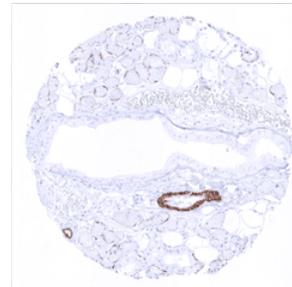
Epididymis



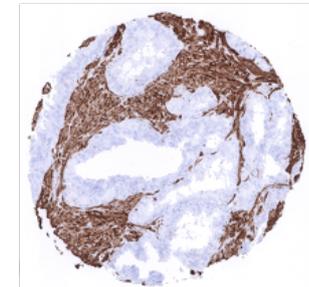
Fallopian tube, mucosa



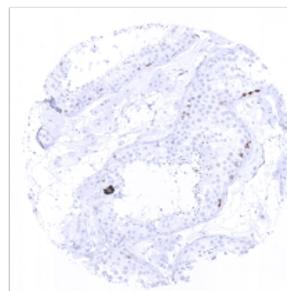
Gallbladder, epithelium



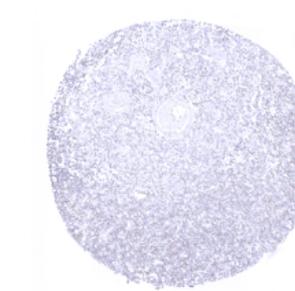
Parotid gland - Calponin immunostaining of small and medium sized vessels and of myoepithelial cells



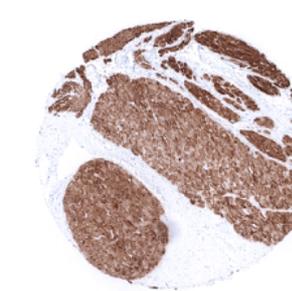
Seminal vesicle



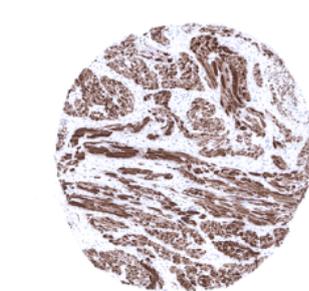
Testis - Weak calponin immunostaining can occur in Sertoli cells



Thymus - 1 of 8 analyzed thymus samples showed a very weak, potentially non-specific calponin staining of cortical lymphocytes



Urinary bladder, muscular wall



Uterus, myometrium