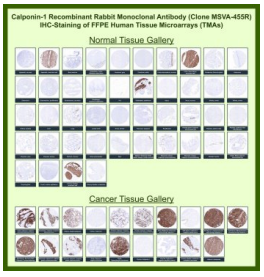
CNN1 Antibody for IHC / Smooth Muscle Tissue Architecture Marker [clone MSVA-455R] (V6064)

Catalog No.	Formulation	Size
V6064-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6064-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-455R
UniProt	P51911
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This CNN1 Antibody for IHC / Smooth Muscle Tissue Architecture Marker is available for research use only.



CNN1 Antibody Tissue Microarray (TMA) IHC. Immunohistochemistry analysis of Calponin 1 / CNN1 in FFPE human normal and cancer tissue microarrays using CNN1 Antibody for IHC clone MSVA-455R, a marker of smooth muscle tissue architecture. Tissue microarray staining with HRP-DAB brown chromogen shows strong cytoplasmic signal in smooth muscle cell populations, including vascular walls and gastrointestinal muscular layers, as well as myoepithelial cells in select glandular tissues, while most non-smooth muscle tissues display minimal staining. In cancer tissue arrays, robust positivity is observed in smooth muscle tumors such as leiomyoma and leiomyosarcoma, whereas non-mesenchymal malignancies are largely negative. Evaluation across TMA panels enables direct comparison of CNN1 expression across diverse tissue types under standardized conditions.

Description

Calponin 1 (CNN1) is a smooth muscle-specific actin-binding protein that serves as a reliable marker of differentiated smooth muscle cells in tissue sections. The CNN1 Antibody for IHC / Smooth Muscle Tissue Architecture Marker is

optimized for detection of this protein in immunohistochemistry, where it highlights smooth muscle organization and structural relationships within complex tissue environments. Its consistent expression in contractile cell populations makes it particularly useful for evaluating tissue architecture and identifying smooth muscle compartments.

CNN1 antibody, also referred to as Calponin 1 antibody or Calponin antibody in the literature, enables visualization of smooth muscle cell populations in formalin-fixed, paraffin-embedded tissues. Expression is highly restricted to smooth muscle cells, including vascular smooth muscle and muscular layers of organs such as the gastrointestinal tract, uterus, and bladder. This restricted expression pattern provides strong contrast against surrounding tissues and supports clear identification of smooth muscle structures in histological analysis.

Functionally, Calponin 1 regulates actin filament interactions and contributes to contractile activity, but in immunohistochemistry applications its primary value lies in delineating tissue architecture. In tissue microarray studies, CNN1 staining allows comparison of smooth muscle organization across multiple tissue types and disease states, providing insight into structural changes, differentiation status, and tissue composition. This makes CNN1 Antibody for IHC particularly valuable in large-scale histological evaluations and comparative tissue studies.

In immunohistochemistry, CNN1 produces strong cytoplasmic staining in smooth muscle cells, often outlining muscle bundles, vascular walls, and muscular layers. This staining pattern provides clear visualization of tissue organization and enables identification of anatomical structures that rely on smooth muscle function. The consistent localization of CNN1 supports interpretation of both normal tissue architecture and pathological alterations.

Subcellularly, Calponin 1 associates with actin filaments in the cytoplasm, which corresponds to the observed staining distribution in IHC. This localization contributes to the characteristic appearance of smooth muscle structures and reinforces its utility as a structural marker. These features make CNN1 Antibody for IHC a reliable tool for morphological analysis and tissue-based studies.

This CNN1 antibody is supported by immunohistochemistry data demonstrating strong and consistent staining across a wide range of tissues, including tissue microarray formats. These features support its use in studies of tissue architecture, smooth muscle identification, and histological analysis.

Additional Calponin 1 antibody reagents targeting CNN1 are available for related research applications.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the CNN1 Antibody for IHC / Smooth Muscle Tissue Architecture Marker should be determined by the researcher.

2. This CNN1 antibody for IHC is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Synthetic peptide corresponding to residues on the C-terminus of human Calponin was used as an immunogen was used as the immunogen for the CNN1 antibody for IHC.

Storage

CNN1/Calponin 1 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

Calponin 1 antibody, CNN1 IHC antibody, Calponin antibody, Smooth muscle tissue marker antibody, CNN1 tissue antibody