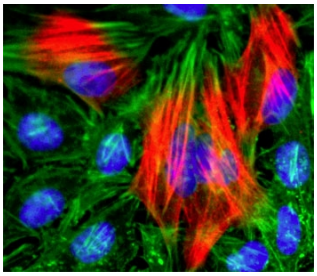
Recombinant Calponin Antibody for IF [clone RM262] (R20275)

Catalog No.	Formulation	Size
R20275-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

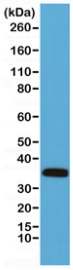
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM262
Purity	Protein A purified from animal origin-free supernatant
UniProt	P51911
Gene ID	1264
Applications	Western Blot : 1:1000-1:2000 Immunocytochemistry : 1:100-1:200
Limitations	This recombinant Calponin antibody is available for research use only.



Immunofluorescence analysis of Calponin antibody in human HeLa cells. Human HeLa cells were fixed and stained using a recombinant Calponin antibody, with signal detected in red showing cytoplasmic filamentous localization consistent with actin-associated structures. Actin filaments were labeled with fluorescein phalloidin (green), and nuclei were counterstained with DAPI (blue). The staining pattern demonstrates cytoskeletal distribution of Calponin within the cytoplasm in an immunocytochemistry/immunofluorescence assay.



Western blot testing of mouse heart lysate with recombinant Calponin antibody. Predicted molecular weight ~33 kDa.

Description

Recombinant Calponin Antibody detects Calponin 1, an actin-binding cytoskeletal protein encoded by the CNN1 gene and expressed predominantly in smooth muscle and myoepithelial cells. This recombinant monoclonal antibody is useful for IF staining of fixed cells and tissue sections, enabling visualization of cytoplasmic Calponin 1 within filamentous actin-associated structures.

Calponin antibody, also referred to as Calponin 1 antibody and CNN1 antibody in the literature, recognizes a key regulatory component of the smooth muscle contractile apparatus. Calponin 1 contains calponin homology domains and defined actin-binding regions that facilitate interaction with filamentous actin, tropomyosin, and other cytoskeletal elements. Through these interactions, Calponin 1 modulates actomyosin ATPase activity and supports maintenance of the differentiated contractile phenotype in smooth muscle cells.

CNN1 expression is characteristic of vascular smooth muscle, gastrointestinal smooth muscle, uterine myometrium, and myoepithelial cells of glandular tissues such as breast and salivary gland. In immunofluorescence assays, Calponin 1 typically demonstrates cytoplasmic filamentous staining that parallels actin organization, supporting studies of cytoskeletal architecture, smooth muscle differentiation, and lineage identification in cultured cells and tissue specimens.

Calponin 1 is frequently evaluated in research involving smooth muscle neoplasms including leiomyoma and leiomyosarcoma, as well as tumors with myoepithelial differentiation. A Recombinant Calponin Antibody can be incorporated into multiplex fluorescence panels to assess smooth muscle phenotype alongside additional structural or lineage markers. This antibody targets Calponin 1 in research applications and is available from NSJ Bioreagents.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Calponin antibody for IF may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A peptide corresponding to the C-terminus of human Calponin-1 was used as the immunogen for this recombinant Calponin antibody for IF.

Storage

Store the recombinant Calponin antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

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