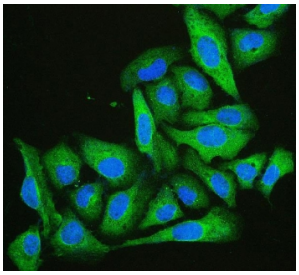
Cofilin 2 Antibody / Actin Dynamics Marker [clone 8C13] (RQ5498)

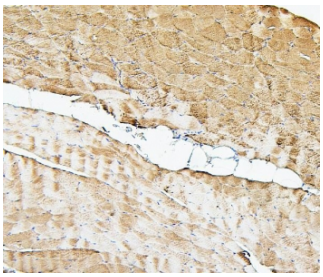
Catalog No.	Formulation	Size
RQ5498	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

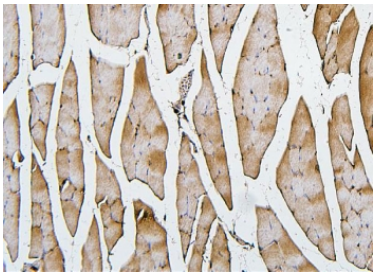
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	8C13
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q9Y281
Localization	Cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml Immunocytochemistry/Immunofluorescence: 2-4ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This Cofilin 2 Antibody / Actin Dynamics Marker is available for research use only.



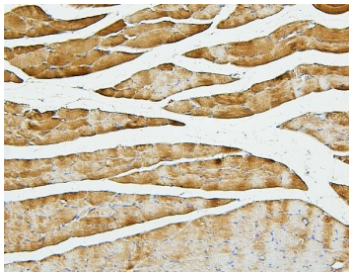
Cofilin 2 Antibody in U-2 OS Osteosarcoma Cells IF. Immunofluorescence staining of FFPE human U-2 OS osteosarcoma cells with Cofilin 2 Antibody / Actin Dynamics Marker (green) and DAPI nuclear stain (blue). HIER was performed by boiling in 10 mM citrate buffer, pH 6, for 20 min followed by cooling before testing. The staining demonstrates CFL2 localization in human U-2 OS cells and supports its study as an actin dynamics marker.



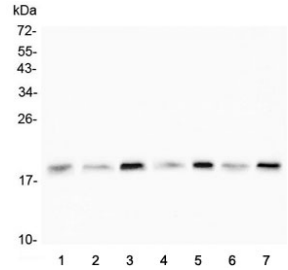
Cofilin 2 Antibody in Human Skeletal Muscle IHC. Immunohistochemistry staining of FFPE human skeletal muscle tissue with Cofilin 2 Antibody / Actin Dynamics Marker. HIER was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 20 min followed by cooling before testing. The observed staining demonstrates cofilin-2 localization in human skeletal muscle.



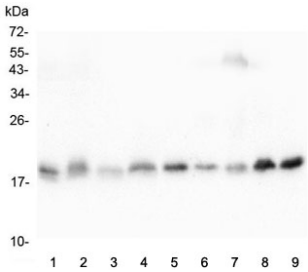
Cofilin 2 Antibody Muscle Staining in Mouse IHC. Immunohistochemistry staining of FFPE mouse skeletal muscle tissue with Cofilin 2 Antibody / Actin Dynamics Marker. Tissue sections underwent HIER by boiling in 10 mM citrate buffer, pH 6, for 20 min and were allowed to cool before testing. CFL2 staining highlights the expression of this actin-regulatory protein in mouse skeletal muscle.



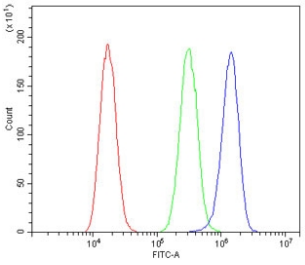
Cofilin 2 Antibody Detection in Rat Skeletal Muscle IHC. Immunohistochemistry staining of FFPE rat skeletal muscle tissue with Cofilin 2 Antibody / Actin Dynamics Marker. HIER was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 20 min followed by cooling before testing. This Cofilin 2 Antibody demonstrates CFL2 distribution in rat skeletal muscle tissue.



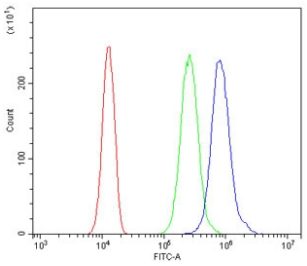
Cofilin 2 Antibody in Human Cells and Placenta WB. Western blot testing of human cell and tissue lysates with Cofilin 2 Antibody / Actin Dynamics Marker. Lane 1: HeLa; Lane 2: U-2 OS; Lane 3: HepG2; Lane 4: T-47D; Lane 5: Raji; Lane 6: placenta; Lane 7: A549. The predicted molecular weight of cofilin-2 is approximately 19 kDa. This Cofilin 2 Antibody demonstrates CFL2 detection across diverse human samples.



Cofilin 2 Antibody in Mouse and Rat Tissues WB. Western blot testing of rat and mouse samples with Cofilin 2 Antibody / Actin Dynamics Marker. Lane 1: rat heart; Lane 2: rat liver; Lane 3: rat kidney; Lane 4: rat brain; Lane 5: mouse heart; Lane 6: mouse liver; Lane 7: mouse kidney; Lane 8: mouse brain; Lane 9: mouse NIH3T3. The predicted molecular weight of cofilin-2 is approximately 19 kDa. This Cofilin 2 Antibody demonstrates detection across multiple mouse and rat tissues.



Cofilin 2 Antibody in A549 Lung Cancer Cells FACS. Flow cytometry testing of human A549 lung cancer cells with Cofilin 2 Antibody / Actin Dynamics Marker at 1 ug/million cells following blocking with goat serum. Red represents cells alone, green represents the isotype control and blue represents Cofilin 2 antibody staining. The observed signal demonstrates detection of CFL2 in human A549 cells.



Cofilin 2 Antibody in SiHa Cervical Cancer Cells FACS. Flow cytometry testing of human SiHa cervical cancer cells with Cofilin 2 Antibody / Actin Dynamics Marker at 1 ug/million cells following blocking with goat serum. Red represents cells alone, green represents the isotype control and blue represents Cofilin 2 antibody staining. This Cofilin 2 Antibody demonstrates detection of the actin-regulatory protein in human SiHa cells.

Description

Cofilin 2 Antibody / Actin Dynamics Marker detects cofilin-2, an actin-binding protein encoded by the CFL2 gene. Cofilin-2 belongs to the actin-depolymerizing factor (ADF)/cofilin family of proteins that regulate the organization and turnover of the actin cytoskeleton. By interacting with filamentous actin (F-actin) and globular actin (G-actin), cofilin-2 contributes to the dynamic remodeling of actin networks required for cellular structure, movement and specialized contractile functions.

Cofilin proteins promote actin filament turnover by binding preferentially to ADP-actin within older regions of actin filaments. This interaction can alter filament structure, promote severing and facilitate depolymerization, generating actin ends that can participate in further cytoskeletal remodeling. Cofilin activity is tightly controlled by phosphorylation and dephosphorylation as well as interactions with phosphoinositides and other regulatory proteins. These mechanisms allow actin dynamics to respond rapidly to intracellular signaling and changes in cellular activity.

Cofilin-2 is particularly associated with skeletal and cardiac muscle and has important functions in muscle development and maintenance. Proper regulation of CFL2 contributes to sarcomeric actin organization and myofibril architecture. Alterations in CFL2 function can disrupt actin filament organization and muscle structure, and pathogenic variants in CFL2 have been associated with congenital myopathies, including nemaline myopathy. Cofilin-2 is therefore studied in the context of skeletal muscle development, muscle cytoskeletal organization and mechanisms underlying inherited muscle disease.

Beyond its prominent role in muscle, CFL2 participates in broader processes involving actin cytoskeleton remodeling. Regulation of actin filament assembly and disassembly contributes to cell morphology, adhesion, migration and intracellular organization. Cofilin-2 can therefore serve as an actin dynamics marker in studies examining how cytoskeletal remodeling is coordinated with cellular signaling, differentiation and tissue-specific functions.

Clone 8C13 is a mouse monoclonal antibody developed for detection of cofilin-2 and evaluated using complementary protein, tissue and cell-based methods. Its validation supports investigation of CFL2 expression and localization across experimental systems without limiting the reagent to a single aspect of cofilin biology. NSJ Bioreagents supplies antibodies for research into cytoskeletal regulation, muscle biology and cellular signaling. A Cofilin 2 Antibody can be used to investigate actin dynamics, cytoskeletal remodeling, muscle organization and mechanisms associated with CFL2 function and disease.

For related reagents used to investigate cytoskeletal regulation and intracellular signaling, explore our Signal Transduction Antibodies page.

Application Notes

Optimal dilution of the Cofilin 2 Antibody / Actin Dynamics Marker should be determined by the researcher.

Immunogen

Amino acids KDAIKKKFTGIKHEWQVNGLDDIKDRSTLGEKL were used as the immunogen for the Cofilin 2 antibody.

Storage

After reconstitution, the Cofilin 2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Cofilin 2 antibody, CFL2 antibody, Muscle Cofilin antibody, Actin Dynamics Marker antibody

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