

**Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13)**  
**Catalog # ABO14866****Specification****Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Product Information**

Application	WB, IHC, IF, ICC, FC
Primary Accession	<a href="#">Q9Y281</a>
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized

**Description**

Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500 µg/ml.

**Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Additional Information**

**Gene ID** 1073

**Other Names**

Cofilin-2, Cofilin, muscle isoform, CFL2

**Calculated MW**

19 kDa KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml<br> Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml<br> Immunocytochemistry/Immunofluorescence, 2 µg/ml<br> Flow Cytometry, 1-3 µg/1x10<sup>6</sup> cells<br>

**Subcellular Localization**

Cytoskeleton. Nucleus matrix.

**Tissue Specificity**

Isoform CFL2b is expressed predominantly in skeletal muscle and heart. Isoform CFL2a is expressed in various tissues.

**Contents**

Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human Cofilin 2/CFL2, identical to the related mouse sequence.

**Cross Reactivity**

No cross-reactivity with other proteins.

**Storage**

**Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.**

**Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Protein Information****Name** CFL2**Function**

Controls reversibly actin polymerization and depolymerization in a pH-sensitive manner. Its F-actin depolymerization activity is regulated by association with CSPR3 (PubMed:<a href="http://www.uniprot.org/citations/19752190" target="\_blank">19752190</a>). It has the ability to bind G- and F-actin in a 1:1 ratio of cofilin to actin. It is the major component of intranuclear and cytoplasmic actin rods. Required for muscle maintenance. May play a role during the exchange of alpha-actin forms during the early postnatal remodeling of the sarcomere (By similarity).

**Cellular Location**

Nucleus matrix. Cytoplasm, cytoskeleton. Note=Colocalizes with CSPR3 in the Z line of sarcomeres.

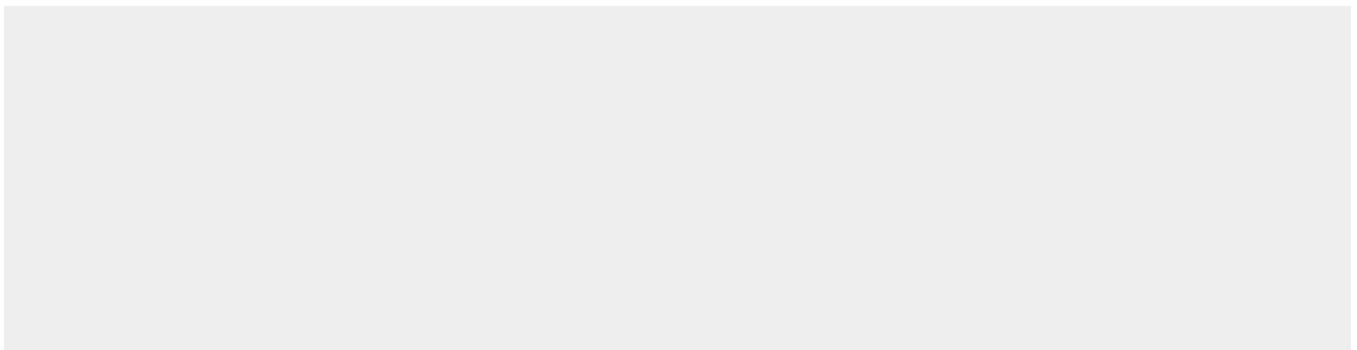
**Tissue Location**

Isoform CFL2b is expressed predominantly in skeletal muscle and heart. Isoform CFL2a is expressed in various tissues

**Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Images**

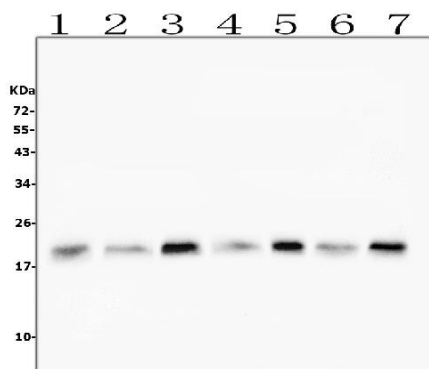


Figure 1. Western blot analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

- Lane 1: human Hela whole cell lysates
- Lane 2: human U2OS whole cell lysates
- Lane 3: human HepG2 whole cell lysates
- Lane 4: human T-47D whole cell lysates
- Lane 5: human Raji whole cell lysates
- Lane 6: human placenta tissue lysates
- Lane 7: human A549 whole cell lysates

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Cofilin-2 antigen affinity purified monoclonal antibody (Catalog # M04773) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Cofilin-2 at approximately 19KD. The expected band size for Cofilin-2 is at 19KD.

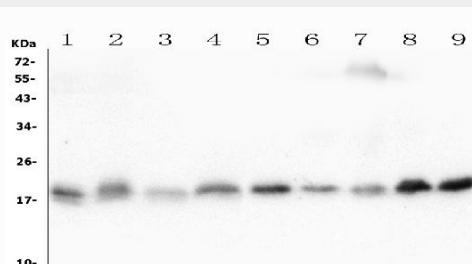


Figure 2. Western blot analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

- Lane 1: rat heart tissue lysates
- Lane 2: rat liver tissue lysates
- Lane 3: rat kidney tissue lysates
- Lane 4: rat brain tissue lysates
- Lane 5: mouse heart tissue lysates
- Lane 6: mouse liver tissue lysates
- Lane 7: mouse kidney tissue lysates
- Lane 8: mouse brain tissue lysates

Lane 9: mouse NIH/3T3 whole cell lysates

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Cofilin-2 antigen affinity purified monoclonal antibody (Catalog # M04773) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Cofilin-2 at approximately 19KD. The expected band size for Cofilin-2 is at 19KD.

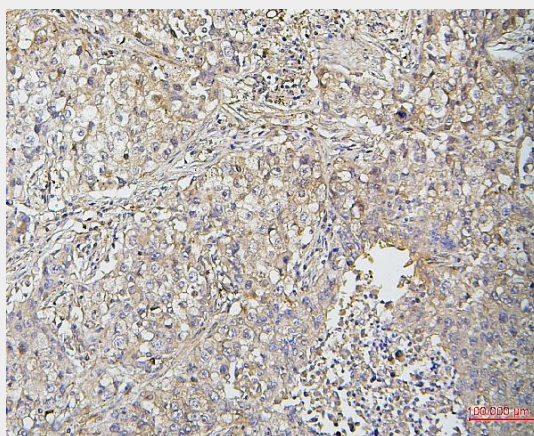


Figure 3. IHC analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Cofilin-2 was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Cofilin-2 Antibody (M04773) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

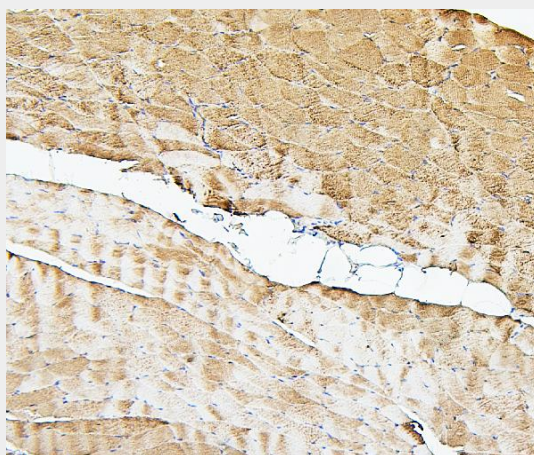


Figure 4. IHC analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Cofilin-2 was detected in paraffin-embedded section of human skeletal muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-Cofilin-2 Antibody (M04773) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

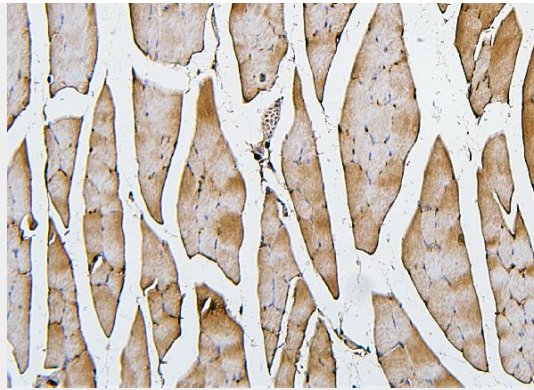


Figure 5. IHC analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Cofilin-2 was detected in paraffin-embedded section of mouse skeletal muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1  $\mu$ g/ml mouse anti-Cofilin-2 Antibody (M04773) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

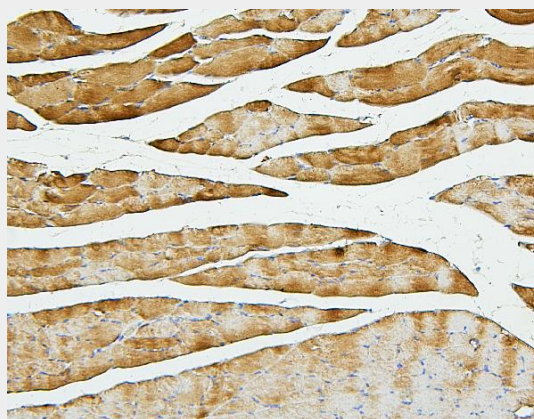


Figure 6. IHC analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Cofilin-2 was detected in paraffin-embedded section of rat skeletal muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1  $\mu$ g/ml mouse anti-Cofilin-2 Antibody (M04773) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.



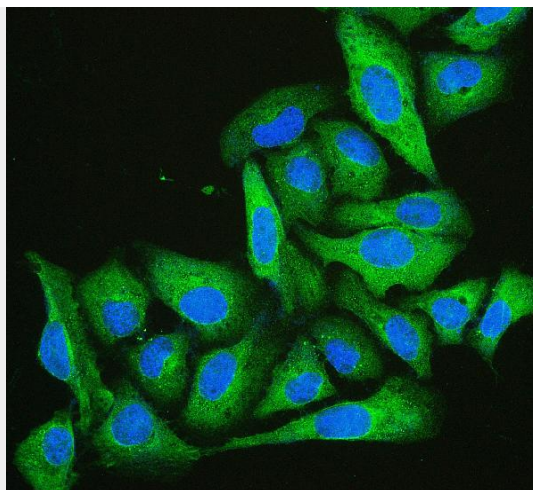


Figure 7. IF analysis of Cofilin-2 using anti-Cofilin-2 antibody (M04773).

Cofilin-2 was detected in immunocytochemical section of U2OS cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2  $\mu\text{g/mL}$  mouse anti-Cofilin-2 Antibody (M04773) overnight at 4°C. DyLight®488 Conjugated Goat Anti-mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

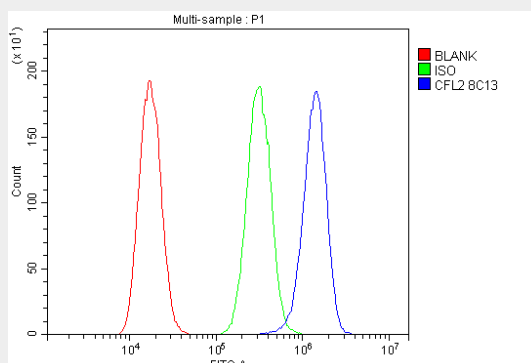


Figure 8. Flow Cytometry analysis of A549 cells using anti-Cofilin-2 antibody (M04773).

Overlay histogram showing A549 cells stained with M04773 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Cofilin-2 Antibody (M04773, 1  $\mu\text{g}/1 \times 10^6$  cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10  $\mu\text{g}/1 \times 10^6$  cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1  $\mu\text{g}/1 \times 10^6$ ) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

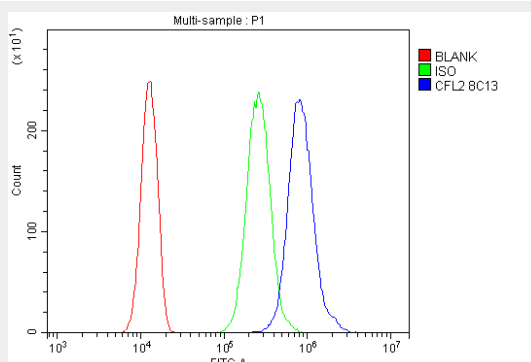


Figure 9. Flow Cytometry analysis of SiHa cells using anti-Cofilin-2 antibody (M04773). Overlay histogram showing SiHa cells stained with M04773 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Cofilin-2 Antibody (M04773, 1  $\mu\text{g}/1 \times 10^6$  cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10  $\mu\text{g}/1 \times 10^6$  cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1  $\mu\text{g}/1 \times 10^6$ ) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

#### **Anti-Cofilin 2/CFL2 Antibody Picoband™ (monoclonal, 8C13) - Background**

Cofilin 2 (muscle), also known as CFL2, is a protein which in humans is encoded by the CFL2 gene. It is mapped to 14q12. This gene encodes an intracellular protein that is involved in the regulation of actin-filament dynamics. And this protein is a major component of intranuclear and cytoplasmic actin rods. It can bind G- and F-actin in a 1:1 ratio of cofilin to actin, and it reversibly controls actin polymerization and depolymerization in a pH-dependent manner. Mutations in this gene cause nemaline myopathy type 7, a form of congenital myopathy. Alternative splicing results in multiple transcript variants.