SANTA CRUZ BIOTECHNOLOGY, INC.

# Cofilin (N-19): sc-8441

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Cofilin is ubiquitously expressed in eukaryotic cells where it binds to Actin, thereby regulating the rapid cycling of actin assembly and disassembly essential for cellular viability. Cofilin is a low molecular weight protein that binds to filamentous F-Actin by bridging two longitudinally associated Actin subunits changing the F-Actin filament twist. This process is allowed by the dephosphorylation of Cofilin Ser 3 by factors such as opsonized zymosan. Lim kinase 1, a serine kinase, phosphorylates Cofilin and renders it unable to bind and depolymerise F-Actin.

## CHROMOSOMAL LOCATION

Genetic locus: CFL1 (human) mapping to 11q13.1, CFL2 (human) mapping to 14q13.1; Cfl1 (mouse) mapping to 19 A, Cfl2 (mouse) mapping to 12 C1.

## SOURCE

Cofilin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cofilin 1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8441 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

## APPLICATIONS

Cofilin (N-19) is recommended for detection of Cofilin 1 and Cofilin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cofilin (N-19) is also recommended for detection of Cofilin 1 and Cofilin 2 in additional species, including equine, canine, bovine and porcine.

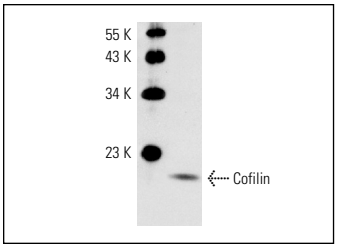
Molecular Weight of Cofilin: 19-21 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

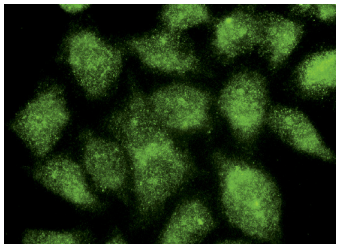
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




Cofilin (N-19): sc-8441. Western blot analysis of Cofilin expression in rat skeletal muscle.



Cofilin (N-19): sc-8441. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

## SELECT PRODUCT CITATIONS


1. Meng, Y., et al. 2003. Synaptic transmission and plasticity in the absence of AMPA glutamate receptor GluR-2 and GluR-3. Neuron 39: 163-176.
2. Vardouli, L., et al. 2005. Lim-kinase 2 and cofilin phosphorylation mediate actin cytoskeleton reorganization induced by transforming growth factor. J. Biol. Chem. 280: 11448-11457.
3. Barker, S., et al. 2005. Identification of mammalian proteins cross-linked to DNA by ionizing radiation. J. Biol. Chem. 280: 33826-33838.
4. Lee, Y.J., et al. 2005. Enhancement of radiosensitivity in H1299 cancer cells by actin-associated protein cofilin. Biochem. Biophys. Res. Commun. 335: 286-291.
5. Matsumoto, N., et al. 2010. Pivotal role of actin depolymerization in the regulation of cochlear outer hair cell motility. Biophys. J. 99: 2067-2076.
6. Li, Z., et al. 2012. Early proteome analysis of rat pancreatic acinar AR42J cells treated with taurolithocholic acid 3-sulfate. Pancreatology 12: 248-256.