**BACKGROUND**

LIM-kinase 1 (LIMK-1) is a serine/threonine kinase containing LIM and PDZ domains. LIMK-1 phosphorylates Cofilin on Ser 3 both in vitro and in vivo. Cofilin is an actin-depolymerizing factor and regulates actin cytoskeletal reorganization. Phosphorylation of Cofilin on Ser 3 is known to block these activities. Phosphorylation of ADF/Cofilin proteins by LIMK-1 or other enzymes will tend to stabilize actin filaments by inhibiting the ability of these proteins to sever and depolymerize older actin filaments that have hydrolyzed their bound ATP and dissociated the phosphate. The rapid turnover of actin filaments and the tertiary meshwork formation are regulated by a variety of actin-binding proteins. Cofilin, therefore, is a terminal effector of signaling cascades that evokes actin cytoskeletal rearrangement.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: CFL1 (human) mapping to 11q13.1; Cfl1 (mouse) mapping to 19 A.

**SOURCE**

p-Cofilin 1 (E-5) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 3 phosphorylated Cofilin 1 of human origin.

**PRODUCT**

Each vial contains 200 μg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271921 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**STORAGE**

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

**APPLICATIONS**

p-Cofilin 1 (E-5) is recommended for detection of Ser 3 phosphorylated Cofilin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Cofilin 1 (E-5) is also recommended for detection of correspondingly phosphorylated Cofilin 1 in additional species, including bovine and porcine.

Suitable for use as control antibody for Cofilin 1 siRNA (h): sc-35078, Cofilin 1 siRNA (m2): sc-270324, Cofilin 1 shRNA Plasmid (h): sc-35078-SH, Cofilin 1 shRNA Plasmid (m2): sc-270324-SH, Cofilin 1 shRNA (h) Lentiviral Particles: sc-35078-V and Cofilin 1 shRNA (m2) Lentiviral Particles: sc-270324-V.

Molecular Weight of p-Cofilin 1: 19-21 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, c4 whole cell lysate: sc-364186 or Jurkat whole cell lysate: sc-2204.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker); sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048.

**DATA**

![Western blot analysis of Cofilin 1 phosphorylation in Jurkat](image1)

![Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmatic staining of squamous epithelial cells](image2)

![Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear staining of glandular cells](image3)

**RESEARCH USE**

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