

Cofilin-1 Protein, Human (His)

Cat. No.:	HY-P75682
Synonyms:	Cofilin-1; 18 kDa phosphoprotein; p18; CFL1; CFL
Species:	Human
Source:	E. coli
Accession:	P23528 (M1-L166)
Gene ID:	1072
Molecular Weight:	Approximately 21 kDa

PROPERTIES

AA Sequence	<p>M A S G V A V S D G V I K V F N D M K V R K S S T P E E V K K R K K A V L F C L</p> <p>S E D K K N I I L E E G K E I L V G D V G Q T V D D P Y A T F V K M L P D K D C</p> <p>R Y A L Y D A T Y E T K E S K K E D L V F I F W A P E S A P L K S K M I Y A S S</p> <p>K D A I K K K L T G I K H E L Q A N C Y E E V K D R C T L A E K L G G S A V I S</p> <p>L E G K P L</p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of sterile 50 mM Tris-HCL, 300 mM NaCl, pH 7.4, 5% trehalose, 5% mannitol and 0.01% Tween 80.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>Cofilin-1 protein exhibits pH-sensitive F-actin depolymerizing activity by binding to F-actin. In collaboration with the subcortical maternal complex (SCMC), it plays a crucial role in enabling zygotes to progress beyond the initial embryonic cell divisions through the regulation of actin dynamics. Additionally, Cofilin-1 is essential for the centralization of the mitotic spindle and symmetric division of zygotes. In epithelial cells, it contributes to the regulation of cell morphology and cytoskeletal organization. Furthermore, Cofilin-1 is required for the up-regulation of the atypical chemokine receptor ACKR2, facilitating its efficient translocation from endosomal compartments to the cell membrane, thereby enhancing chemokine uptake and degradation. Its involvement extends to neural tube morphogenesis and neural crest cell migration.</p>
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Functionally, Cofilin-1 can bind G- and F-actin in a 1:1 ratio, constituting a major component of intranuclear and cytoplasmic actin rods. Interactions with the subcortical maternal complex involve TLE6 isoform 1 and NLRP5, along with interaction with C9orf72.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA