

Recombinant Human ACTB Protein, His-tagged

Cat. No. ACTB-124H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human ACTB Protein with His tag was expressed in E. coli.
Species	Human
Source	E.coli
Description	Actin, a ubiquitous eukaryotic protein, is the major component of the cytoskeleton. At least six isoforms are known in mammals. Nonmuscle β- and γ-actin, also known as cytoplasmic actin, are ubiquitously expressed, controlling cell structure and motility. While all actin isoforms are highly homologous, cytoplasmic β- and γ-actin protein sequences differ by only four biochemically similar amino acids. For this reason, antibodies raised to β-actin may cross-react with γ-actin, and vice versa. α-cardiac and α-skeletal actin are expressed in striated cardiac and skeletal muscles, respectively; two smooth muscle actins, α- and γ-actin, are found primarily in vascular smooth muscle and enteric smooth muscle, respectively. These actin isoforms regulate the contractile potential of muscle cells. Actin exists mainly as a fibrous polymer, F-actin. In response to cytoskeletal reorganizing signals during processes such as cytokinesis, endocytosis, or stress, cofilin promotes fragmentation and depolymerization of F-actin, resulting in an increase in the monomeric globular form, G-actin. The ARP2/3 complex stabilizes F-actin fragments and promotes formation of new actin filaments. Research studies have shown that actin is hyperphosphorylated in primary breast tumors. Cleavage of actin under apoptotic conditions has been observed in vitro and in cardiac and skeletal muscle, as shown in research studies. Actin cleavage by caspase-3 may accelerate ubiquitin/proteasome-dependent muscle

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	proteolysis.
Molecular Mass	~43 kDa
AA Sequence	MDDDIAALVVDNGSGMCKAGFAGDDAPRAVFPISVGRPRHQGMVGMGQKDSYV GDEAQSQRGILTLKYPIEHGIVTNWDDMEKIWHHTFYNELRVAPEEHPVLLTEAPLNP KANREKMTQIMFETFNTPAMYVAIQAVLSLYASGRRTGIVMDSGDGVTHTVPIYEGY ALPHAILRLDLAQRDLTDYLMKILTERGYSFTTTAEREIVRDIKEKLCYVALDFEQEMA TAASSSSLEKSYELPDGQVITIGNERFRCPEALFQPSFLGMESCGIHETTFNSIMKCD VDIRKDLYANTVLSGGTTMYPGIADRMQKEITALAPSTMKIKIAPPERKYSVWIGGSIL ASLSTFQQMWISKQEYDESGPSIVHRKCF
Purity	Transferred into competent cells and the supernatant was purified by NI column affinity chromatography and the purity is > 85% (by SDS-PAGE).
Notes	For research use only, not for use in diagnostic procedure.
Storage	Store at 4 centigrade short term. Aliquot and store at -20 centigrade long term. Avoid freeze-thaw cycles.
Storage Buffer	PBS, pH7.4

GENE INFORMATION

Gene Name	ACTB actin, beta [Homo sapiens (human)]
Official Symbol	ACTB
Synonyms	ACTB; actin, beta; actin, cytoplasmic 1; beta cytoskeletal actin; PS1TP5-binding protein 1; PS1TP5BP1;

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Gene ID	60
mRNA Refseq	NM_001101
Protein Refseq	NP_001092
MIM	102630
UniProt ID	P60709
SDS-PAGE	