ARG65457
anti-Muscle Actin antibody [HHF35]

Package: 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [HHF35] recognizes Muscle Actin
Tested Reactivity	Hu, Ms, Rat, Cat, Chk, Dog, NHuPrm, Rb
Tested Application	IHC-Fr, IHC-P, WB
Specificity	The mouse monoclonal antibody HHF35 recognizes muscle specific alpha and gamma actin (42 kDa) in various species. This antibody stains skeletal, smooth and myocardial cells as well as myoepithelial cells and pericytes of small vessels. It is a widely used marker of muscle and muscledderived cells.
Host	Mouse
Clonality	Monoclonal
Clone	HHF35
Isotype	IgG1
Target Name	Muscle Actin
Species	Human
Immunogen	SDS extracted protein fraction of Human myocardium.
Conjugation	Un-conjugated
Alternate Names	CFTDM; MPFD; CFTD; ASMA; NEM1; NEM2; NEM3; Alpha-actin-1; ACTA; CFTD1; Actin, alpha skeletal muscle

Application Instructions

Application table

Application	Dilution
IHC-Fr	Assay-dependent
IHC-P	Assay-dependent
WB	1 µg/ml

Application Note

WB: Under reducing condition.
IHC-P: Antigen retrieval steps generally not required, but in case of arterial smooth muscle cells or myoepithelial cells, pepsin or trypsin pretreatment is recommended.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control

WB: Positive control: Murine femoral muscle and heart. Negative control: HUVEC.

Properties

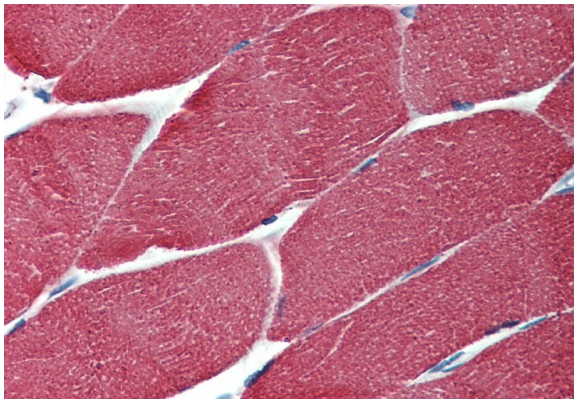
Form	Liquid
Purification	Purified from cell culture supernatant by protein-A affinity chromatography.
Purity	> 95% (by SDS-PAGE)

Buffer	PBS (pH 7.4) and 15 mM Sodium azide
Preservative	15 mM Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

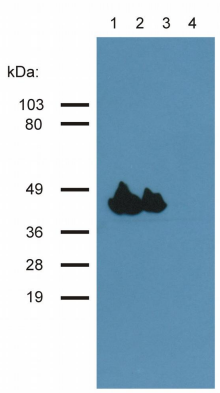
Gene Symbol	ACTA1
Gene Full Name	actin, alpha 1, skeletal muscle
Background	Actin is a highly conserved ubiquitous globular protein (G-actin) that polymerizes to form fibrous F-actin microfilaments. In higher eucaryotes several actin isoforms have been identified, that fall into three classes. Alpha actin is a structural component of the contractile apparatus of muscle cells or muscle-derived cells. Beta actin and gamma actin play roles in regulation of cell motility in other cell types. Specific subcellular structures such as as stress fibers, focal adhesions, filopodia etc., are formed by involvement of actin cytoskeleton.
Function	Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells. [UniProt]
Research Area	Cancer antibody; Cell Death antibody; Controls and Markers antibody; Signaling Transduction antibody
Calculated Mw	42 kDa
PTM	Oxidation of Met-46 and Met-49 by MICALs (MICAL1, MICAL2 or MICAL3) to form methionine sulfoxide promotes actin filament depolymerization. MICAL1 and MICAL2 produce the (R)-S-oxide form. The (R)-S-oxide form is reverted by MSRB1 and MSRB2, which promote actin repolymerization (By similarity). Monomethylation at Lys-86 (K84me1) regulates actin-myosin interaction and actomyosin-dependent processes. Demethylation by ALKBH4 is required for maintaining actomyosin dynamics supporting normal cleavage furrow ingression during cytokinesis and cell migration. (Microbial infection) Monomeric actin is cross-linked by V.cholerae toxins RtxA and VgrG1 in case of infection: bacterial toxins mediate the cross-link between Lys-52 of one monomer and Glu-272 of another actin monomer, resulting in formation of highly toxic actin oligomers that cause cell rounding (PubMed:19015515). The toxin can be highly efficient at very low concentrations by acting on formin homology family proteins: toxic actin oligomers bind with high affinity to formins and adversely affect both nucleation and elongation abilities of formins, causing their potent inhibition in both profilin-dependent and independent manners (PubMed:26228148).

Images



ARG65457 anti-Muscle Actin antibody [HHF35] IHC-P image

Immunohistochemistry: Paraffin-embedded Human muscle tissue stained with ARG65457 anti-Muscle Actin antibody [HHF35].



ARG65457 anti-Muscle Actin antibody [HHF35] WB image

Western blot: 1) Murine femoral muscle, 2) Murine heart, 3) HeLa cell lysate, and 4) HUVEC cell lysate stained with ARG65457 anti-Muscle Actin antibody [HHF35].