ARG23299
anti-gamma Actin antibody [2A3]

Package: 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [2A3] recognizes gamma Actin Mouse anti Human actin gamma antibody, clone 2A3 recognises cytoplasmic actin gamma (known also as ACTG and Gamma Actin), a 41. 8 kDa cytoskeletal protein. Actins are highly conserved proteins that are involved in cell motility, structure and integrity and are ubiquitously expressed in all eukaryotic cells. Six different isoforms of actin have been identified (Vandekerckhove and Weber 1978) . Clone 2A3 is highly specific for actin gamma and does not react with other actin isoforms (Dugina et al. 2009).
Tested Reactivity	Hu, Ms
Tested Application	ICC/IF, IHC-P, WB
Host	Mouse
Clonality	Monoclonal
Clone	2A3
Isotype	IgG2b
Target Name	gamma Actin
Species	Human
Immunogen	KLH-conjugated synthetic peptide corresponding to the N-terminal nonapeptide of gamma-cytoplasmic actin.
Conjugation	Un-conjugated
Alternate Names	BRWS2; Actin, cytoplasmic 2; DFNA26; DFNA20; ACT; HEL-176; Gamma-actin; ACTG

Application Instructions

Application table

Application	Dilution
ICC/IF	Assay-dependent
IHC-P	Assay-dependent
WB	1:100 - 1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

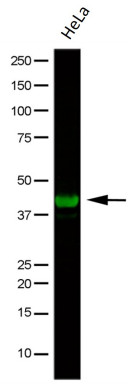
Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS and 0.09% Sodium azide.
Preservative	0.09% Sodium azide
Concentration	1 mg/ml

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

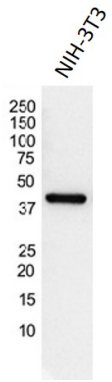
Gene Symbol	ACTG1
Gene Full Name	actin gamma 1
Background	Actins are highly conserved proteins that are involved in various types of cell motility, and maintenance of the cytoskeleton. In vertebrates, three main groups of actin isoforms, alpha, beta and gamma have been identified. The alpha actins are found in muscle tissues and are a major constituent of the contractile apparatus. The beta and gamma actins co-exist in most cell types as components of the cytoskeleton, and as mediators of internal cell motility. Actin, gamma 1, encoded by this gene, is a cytoplasmic actin found in non-muscle cells. Mutations in this gene are associated with DFNA20/26, a subtype of autosomal dominant non-syndromic sensorineural progressive hearing loss. Alternative splicing results in multiple transcript variants.[provided by RefSeq, Jan 2011]
Function	Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells. [UniProt]
Calculated Mw	42 kDa
PTM	The methylhistidine determined by Bienvenut et al is assumed to be the tele-methylhistidine isomer by similarity to the mouse ortholog. Oxidation of Met-44 and Met-47 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-84 (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-50 of one monomer and Glu-270 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). [UniProt]

Images



ARG23299 anti-gamma Actin antibody [2A3] WB image

Western blot: HeLa whole cell lysate stained with ARG23299 anti-gamma Actin antibody [2A3].



ARG23299 anti-gamma Actin antibody [2A3] WB image

Western blot: NIH-3T3 murine embryonic fibroblast whole cell lysate stained with ARG23299 anti-gamma Actin antibody [2A3].