

ARG62346 anti-beta Actin antibody [BA3R]

Package: 100 µg, 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [BA3R] recognizes beta Actin
Tested Reactivity	Hu, Ms, Rat, Chk, Rb
Tested Application	ELISA, FACS, ICC/IF, IP, WB
Specificity	Recognizes native and denatured forms of β -Actin (around 42 kDa)
Host	Mouse
Clonality	Monoclonal
Clone	BA3R
Isotype	IgG2b
Target Name	beta Actin
Immunogen	β -Actin N-terminal peptide-KLH conjugates.
Conjugation	Un-conjugated
Alternate Names	PS1TP5BP1; BRWS1; Actin, cytoplasmic 1; Beta-actin

Application Instructions

Application table	Application	Dilution
	ELISA	Assay-dependent
	FACS	0.1 - 1 µg/10 ⁶ cells
	ICC/IF	1:500 - 1:2000
	IP	5 µg/ml
	WB	1:1000 - 1:10000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	Mouse brain	

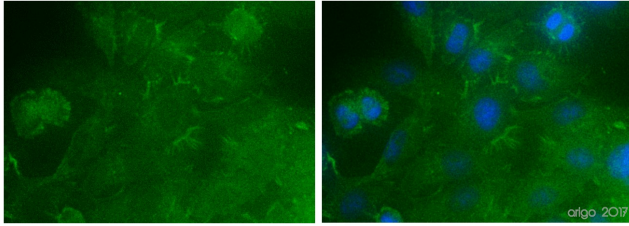
Properties

Form	Liquid
Purification	Protein A affinity purified.
Purification Note	Protein A affinity chromatography from mouse ascites fluid.
Buffer	10mM PBS (pH 7.2) and 0.05% Sodium azide
Preservative	0.05% 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

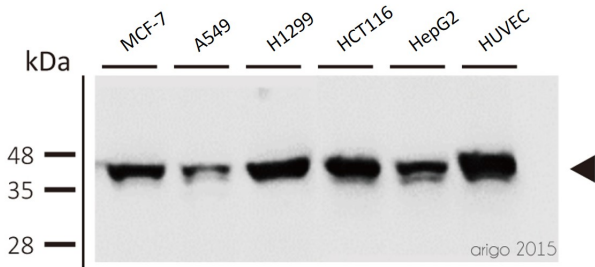
Gene Full Name	actin, beta
Background	Beta actin is one of six different actin proteins. Actins are highly conserved proteins that are involved in cell motility, structure, integrity, and intercellular signaling. The encoded protein is a major constituent of the contractile apparatus and one of the two nonmuscle cytoskeletal actins that are ubiquitously expressed. Mutations in this gene cause Baraitser-Winter syndrome 1, which is characterized by intellectual disability with a distinctive facial appearance in human patients. Numerous pseudogenes of this gene have been identified throughout the human genome. [provided by RefSeq, Aug 2017]
Function	Actin is a highly conserved protein that polymerizes to produce filaments that form cross-linked networks in the cytoplasm of cells (PubMed:29581253). Actin exists in both monomeric (G-actin) and polymeric (F-actin) forms, both forms playing key functions, such as cell motility and contraction (PubMed:29581253). In addition to their role in the cytoplasmic cytoskeleton, G- and F-actin also localize in the nucleus, and regulate gene transcription and motility and repair of damaged DNA (PubMed:29925947). [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30003 Tag Internal Control Antibody Duo (DDDK tag, beta Actin) Related products: beta Actin antibodies; beta Actin Duos / Panels; Anti-Mouse IgG secondary antibodies;
Research Area	Controls and Markers antibody; Signaling Transduction antibody; Loading Control antibody; Cytochrome-C fractionation Study antibody; Inflammation Study antibody; Tag Internal Control antibody
Calculated Mw	42 kDa
PTM	ISGylated. 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).
Cellular Localization	Cytoplasm , cytoskeleton



ARG62346 anti-beta Actin antibody [BA3R] ICC/IF image

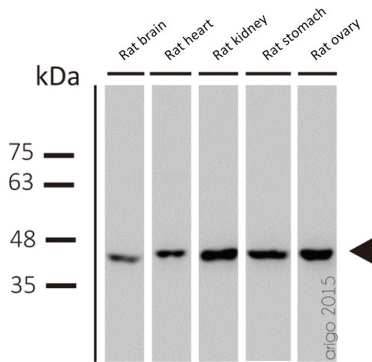
Immunofluorescence: 100% Methanol fixed (RT, 10 min) HeLa cells stained with ARG62346 anti-beta Actin antibody [BA3R] at 1:500 dilution. Left: primary antibody (green). Right: Merge (primary antibody and DAPI).

Secondary antibody: [ARG55393](#) Goat anti-Mouse IgG (H+L) antibody (FITC)



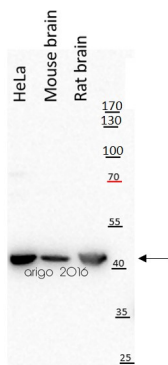
ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: MCF-7, A549, H1299, HCT116, HepG2 and HUVEC cell lysates stained with ARG62346 anti-beta Actin antibody [BA3R] at 1:1000 dilution.



ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: Rat brain, Rat heart, Rat kidney, Rat stomach and Rat ovary lysates stained with ARG62346 anti-beta Actin antibody [BA3R] at 1:1000 dilution.



ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: 20 µg of HeLa, Mouse brain and Rat brain lysates stained with ARG62346 anti-beta Actin antibody [BA3R] at 1:10000 dilution.

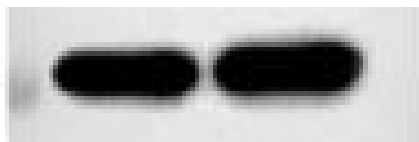


ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: Mouse heart stained with ARG62346 anti-beta Actin antibody [BA3R].

From Lei Zhang et al. Front Physiol (2022), [doi: 10.3389/fphys.2022.862187](https://doi.org/10.3389/fphys.2022.862187), Fig. 4. C.

β -actin



ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: GBC-SD cells stained with ARG62346 anti-beta Actin antibody [BA3R].

From Desen Fan et al. Heliyon (2024), [doi: 10.1016/j.heliyon.2024.e30260](https://doi.org/10.1016/j.heliyon.2024.e30260), Fig. 4. B.

ACTIN



ARG62346 anti-beta Actin antibody [BA3R] WB image

Western blot: GBM cells stained with ARG62346 anti-beta Actin antibody [BA3R].

From Jialuo Mai et al. Mol Oncol (2019), [doi: 10.1002/1878-0261.12525](https://doi.org/10.1002/1878-0261.12525), Fig. 4. A.
