ARG65683
anti-beta Actin antibody

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

Summary

Product Description	Rabbit Polyclonal antibody recognizes beta Actin
Tested Reactivity	Hu, Ms, Rat, Rb, Sheep
Predict Reactivity	Chk, Mk, Xenopus
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	beta Actin
Species	Human
Immunogen	Recombinant Protein of Human beta Actin (NP_001092.1).
Conjugation	Un-conjugated
Alternate Names	PS1TP5BP1; BRWS1; Actin, cytoplasmic 1; Beta-actin

Application Instructions

Application table

Application	Dilution
IHC-P	1:200
WB	1:3000 - 1:10000

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

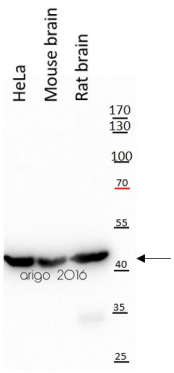
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
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. 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

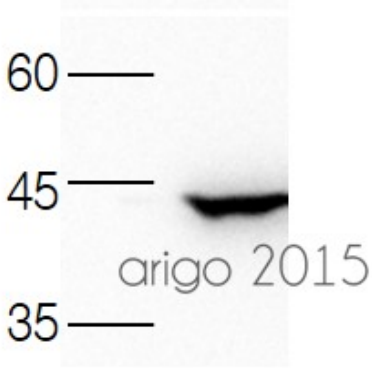
Gene Symbol	ACTB
Gene Full Name	actin, beta
Background	Beta actin is one of six different actin proteins. Actins are highly conserved proteins that are involved in cell motility, structure, integrity, and intercellular signaling. The encoded protein is a major constituent of the contractile apparatus 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: ARG30258 Loading Controls for Whole Cell Lysate Antibody Panel ARG30323 Inflammation Antibody Panel Related products: beta Actin antibodies; beta Actin Duos / Panels; Anti-Rabbit 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).

Images



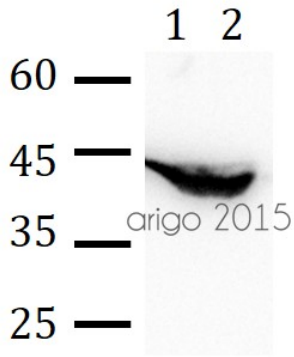
ARG65683 anti-beta Actin antibody WB image

Western blot: 20 µg of HeLa, Mouse brain and Rat brain lysates stained with ARG65683 anti-beta Actin antibody at 1:10000 dilution.



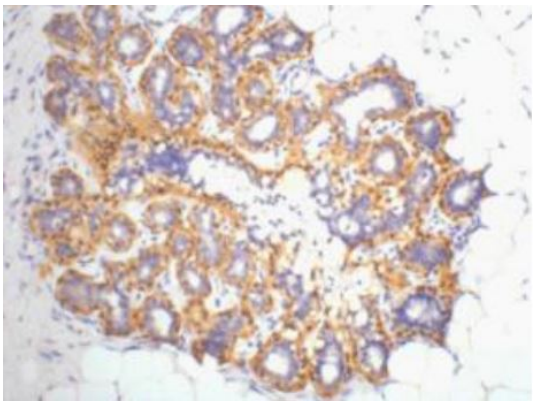
ARG65683 anti-beta Actin antibody WB image

Western blot: 30 µg of 293T lysate stained with ARG65683 anti-beta Actin antibody at 1:3000 dilution.



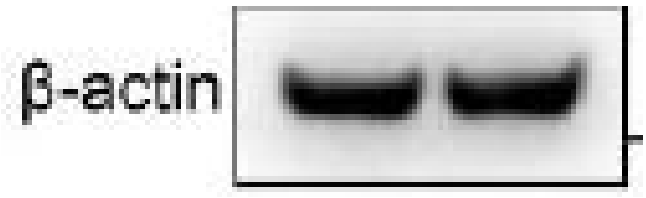
ARG65683 anti-beta Actin antibody WB image

Western blot: 30 µg of 1) Rat brain, and 2) Mouse liver lysate stained with ARG65683 anti-beta Actin antibody at 1:3000 dilution.



ARG65683 anti-beta Actin antibody IHC-P image

Immunohistochemistry: Human ovary tissue stained with ARG65683 anti-beta Actin antibody at 1:200 dilution.



ARG65683 anti-beta Actin antibody WB image

Western blot: HCT116 cells stained with ARG65683 anti-beta Actin antibody.

From Fang Wang et al. Cell Rep (2023), doi: 10.1016/j.celrep.2023.113318, Fig. S2. A.
