Rabbit Polyclonal Antibody to Human Beta-Actin (Antigen Affinity Purified)

Catalog Number: **100162-T36**

General Information	
Immunogen:	A synthetic peptide corresponding to the C-terminus of the human beta actin.
Ig Type:	Rabbit IgG
Applications:	WB,IP
Specificity:	Human Beta-Actin
Formulation:	0.2 μm filtered solution in PBS ,pH7.4
Storage:	< -20℃

Preparation

Produced in rabbits immunized with purified, a synthetic peptide corresponding to the C-terminus of the human beta actin, and purified by antigen affinity chromatography.

Storage

This antibody can be stored at 2℃-8℃ for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20℃ to -80℃. **Preservative-Free.**
Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be disposed of properly. **Avoid repeated freeze-thaw cycles.**

Background

Beta-actin is an isform of actin proteins. Actins are highly conserved proteins that are involved in cell motility, structure, and integrity. There are six different but highly conserved actin isoforms in vertebrates. Four of these isoforms are expressed primarily in striated and smooth muscle cells, whereas the two cytoplasmic β-actin and γ-actin isoforms are ubiquitously expressed. Conserved from birds to mammals, β-actin and γ-actin differ at only four biochemically similar amino acid residues. These amino acid differences confer unique biochemical properties between the two isoforms. Beta-actin is a major constituent of the contractile apparatus.
Beta-actin, also known as a “housekeeping” protein, is usually used as a loading control, for among others, the integrity of cells, protein degradation, in PCR and Western blotting. Loading controls are essential for proper interpretation of western blots. They can be used to normalize the levels of protein detected by confirming that protein loading is the same across the gel.
Loading controls are usually proteins that exhibit high-level, constitutive expression in the cell type or sample you are examining. This ensures constant expression levels. Thus “housekeeping genes” are frequently chosen for use as loading controls. It is also important that the protein chosen as a loading control has a different molecular weight than the protein of interest so that the bands are distinct and expression levels quantifiable. Popular loading control detection antibodies include anti-β-Actin monoclonal or polyclonal antibodies, anti-COX-4, anti-GAPDH, anti-Tubulin and anti-VDAC/Porin antibodies.

Reference

1. Hanukoglu I., et al. 1983, J Mol Biol. 163(4): 673-8.
2. Mao B., et al. 2001, Nature. 411(6835): 321-5.
3. Holleran EA., et al. 2001, J Biol Chem. 276(39): 36598-605.

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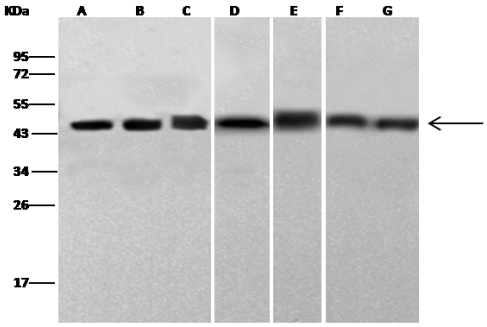
Applications

Western blot –

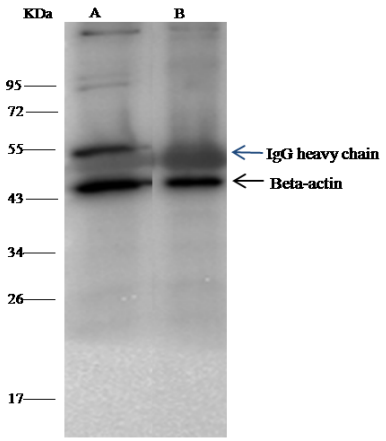
WB: 2-5 μg/ml



Lanes / Items	A	B	C	D	E	F	G
Sample	Jurkat (whole cell lysate)	Hela (whole cell lysate)	A431 (whole cell lysate)	K562 (whole cell lysate)	Mouse kidney Tissue lysate	Rat lung Tissue lysate	Rat brain Tissue lysate
Sample Volume (μg/lane)	30						
Gel	13% SDS-PAGE reducing gel						
Recommended Concentration	2-5 μg/ml						
Secondary Antibody	HRP Conjugated Goat -anti -Rabbit IgG (H+L) ,at 1:10000 dilution						
Developed using ECL imaging system.							
Explanation	Predicted band size : 43 kDa Observed band size : 46 kDa						

Immunoprecipitation –

IP: 4-8 μL/mg of lysate



Lanes / Items	A	B
Sample (whole cell lysate)	Hela	Jurkat
Sample quantity	0.5 mg	
IP antibody quantity	4 uL	
Immunomagnetic beads Protein G	100 ng	
Gel	13% SDS-PAGE reducing gel	
Primary antibody	KLH-SMCC-sinoA2712-RP02 antibody at 10 μg/ml	
Secondary antibody	HRP Conjugated Goat-anti-Rabbit IgG (H+L) ,at 1:10000 dilution	