

# Anti-beta Actin Antibody

## R1102-1



|                            |   |
|----------------------------|---|
| <b>Product Type:</b>       | Rabbit polyclonal IgG, primary antibodies |
| <b>Species reactivity:</b> | Human, Mouse, Rat                         |
| <b>Applications:</b>       | WB, IHC-P                                 |
| <b>Molecular Wt:</b>       | Predicted band size: 42 kDa               |

**Description:** Beta-actin (human gene and protein abbreviation ACTB/ACTB) is one of six different actin isoforms which have been identified in humans. This is one of the two nonmuscle cytoskeletal actins. Actins are highly conserved proteins that are involved in cell motility, structure and integrity. Alpha actins are a major constituent of the contractile apparatus. Beta-actin has been shown to interact with SPTBN2. In addition, RNA-binding protein Sam68 was found to interact with the mRNA encoding  $\beta$ -actin, which regulates the synaptic formation of the dendritic spines with its cytoskeletal components. Beta-actin has been shown to activate eNOS, thereby increasing NO production. An eight-amino acid residue (326-333) in actin has been shown to mediate the interaction between actin and eNOS. Recurrent mutations in this gene have been associated to cases of diffuse large B-cell lymphoma. Beta actin is usually used as a loading control, for among others, the integrity of cells, protein degradation, in PCR and Western blotting. Its molecular weight is approximately 42 kDa.

**Immunogen:** Synthetic peptide within N-terminal residues of Human beta actin.

**Positive control:** HeLa cell lysate, RAW264.7 cell lysate, PC-12 cell lysate, human lung tissue.

**Subcellular location:** Cytoskeleton, Nucleus.

**Database links:** SwissProt: P60709 Human | P60710 Mouse | P60711 Rat

**Recommended Dilutions:**

|              |                   |
|--------------|-------------------|
| <b>WB</b>    | 1:10,000-1:50,000 |
| <b>IHC-P</b> | 1:1,000           |

**Storage Buffer:** 1\*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Immunogen affinity purified.

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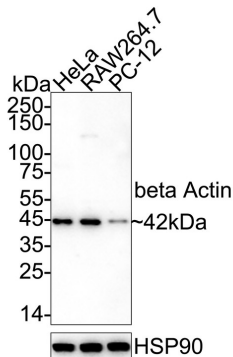
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## Images



**Fig1:** Western blot analysis of beta Actin on different lysates with Rabbit anti-beta Actin antibody (R1102-1) at 1/50,000 dilution.

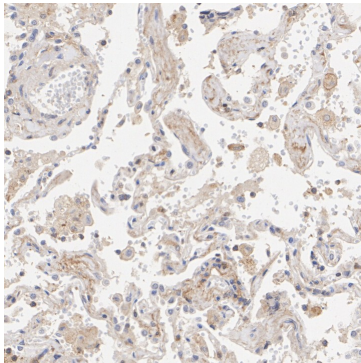
Lane 1: HeLa cell lysate  
Lane 2: RAW264.7 cell lysate  
Lane 3: PC-12 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 42 kDa  
Observed band size: 42 kDa

Exposure time: 3 minutes; ECL: K1801;  
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (R1102-1) at 1/50,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.



**Fig2:** Immunohistochemical analysis of paraffin-embedded human lung tissue with Rabbit anti-beta Actin antibody (R1102-1) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (R1102-1) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

## Background References

1. Ponte P. et al. Evolutionary conservation in the untranslated regions of actin mRNAs: DNA sequence of a human beta-actin cDNA. *Nucleic Acids Res.* 12:1687-1696(1984).
2. Drazic A. et al. NAA80 is actin's N-terminal acetyltransferase and regulates cytoskeleton assembly and cell motility. *Proc. Natl. Acad. Sci. U.S.A.* 115:4399-4404(2018).

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