# Anti-beta Actin Antibody

## R1207-1

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|---|---|
| **Product Type:** | Rabbit polyclonal IgG, primary antibodies |
| **Species reactivity:** | Human, Mouse, Rat, Zebrafish, Bamboo |
| **Applications:** | WB, IF-Cell, IHC-P, FC |
| **Molecular Wt:** | Predicted band size: 42 kDa |

**Description:** Actins are highly conserved proteins involved in cell motility, structure and integrity. Actin has been found to be expressed in at least six isomeric forms. It is expressed in heart and skeletal striated muscle tissue, and in certain smooth muscle tissues, regulating contractile potentials for these cells. It is also expressed in the cytoplasm of non-muscle cells, functioning to control cell structure and motility. Beta actin is usually used as a loading control, for among others, the integrity of cells, protein degradation, in Western Blotting.

**Immunogen:** Synthetic peptide within N-terminal residues of β-Actin.

**Positive control:** HeLa cell lysate, A549 cell lysate, Jurkat cell lysate, NIH/3T3 cell lysate, PC-12 cell lysate, mouse brain tissue lysate, rat brain tissue lysate, mouse lung tissue lysate, rat lung tissue lysate, HeLa, NIH/3T3, PC-12, human kidney tissue, human lung tissue, mouse kidney tissue, mouse lung tissue, rat kidney tissue, rat lung tissue, hybrid fish (crucian-carp) brain tissue, hybrid fish (crucian-carp) kidney tissue.

**Subcellular location:** Cytoskeleton

**Database links:** SwissProt: P60709 Human | P60710 Mouse | P60711 Rat | Q7ZVI7 Zebrafish

**Recommended Dilutions:**

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| **WB** | 1:10,000 |
| **IF-Cell** | 1:100 |
| **IHC-P** | 1:2,000 |
| **FC** | 1:1,000 |

**Storage Buffer:** 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

**Purity:** Immunogen affinity purified.

## Images

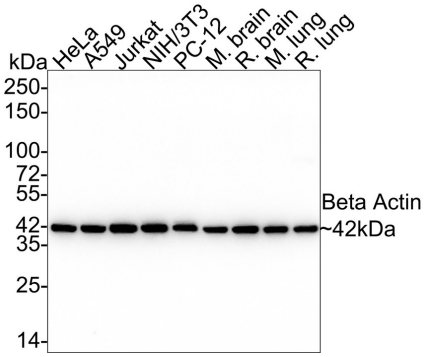


**Fig1:** Western blot analysis of beta Actin on different lysates with Rabbit anti-beta Actin antibody (R1207-1) at 1/10,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: A549 cell lysate
Lane 3: Jurkat cell lysate
Lane 4: NIH/3T3 cell lysate
Lane 5: PC-12 cell lysate
Lane 6: Mouse brain tissue lysate
Lane 7: Rat brain tissue lysate
Lane 8: Mouse lung tissue lysate
Lane 9: Rat lung tissue lysate

Lysates/proteins at 20 µg/Lane.

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

Exposure time: 30 seconds;

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 (R1207-1) at 1/10,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:50,000 dilution was used for 1 hour at room temperature.

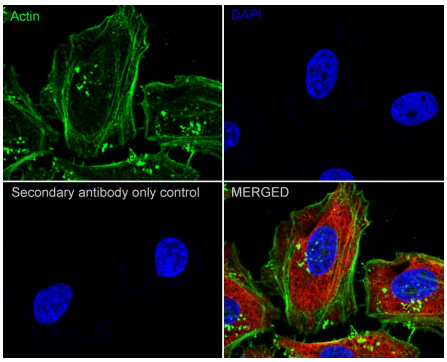


**Fig2:** Immunocytochemistry analysis of HeLa cells labeling beta Actin with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

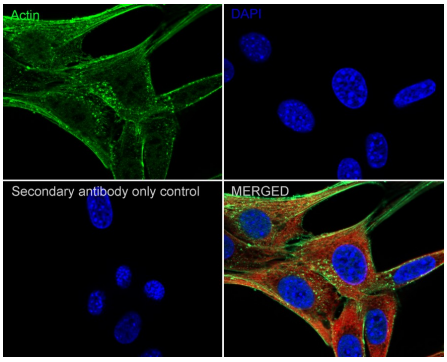


**Fig3:** Immunocytochemistry analysis of NIH/3T3 cells labeling beta Actin with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

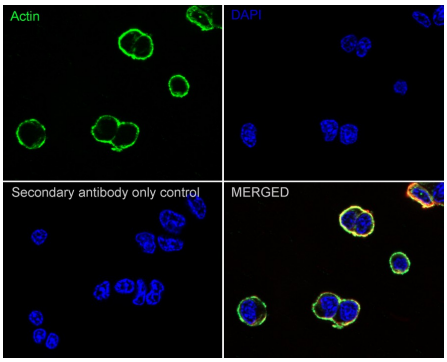


**Fig4:** Immunocytochemistry analysis of PC-12 cells labeling beta Actin with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-beta Actin antibody (R1207-1) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

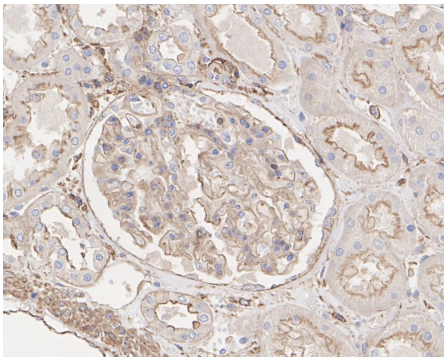

**Fig5:** Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

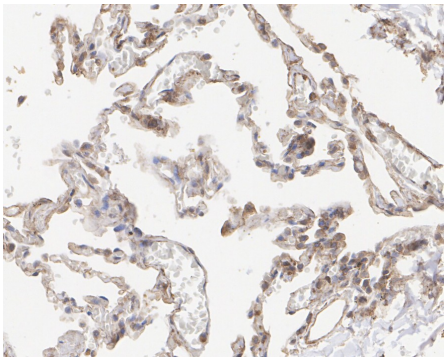

**Fig6:** Immunohistochemical analysis of paraffin-embedded human lung tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

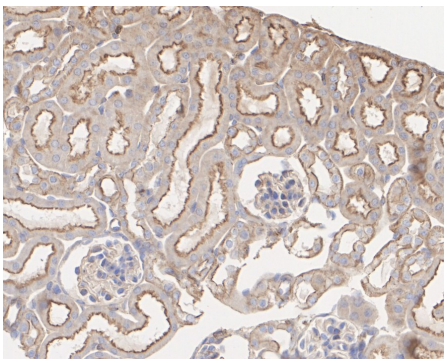

**Fig7:** Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

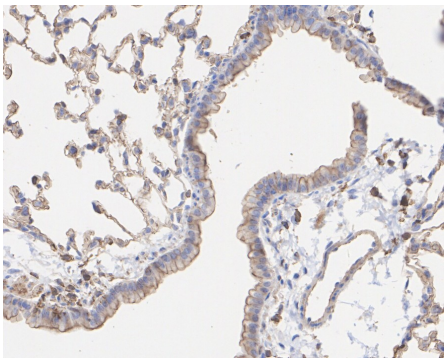

**Fig8:** Immunohistochemical analysis of paraffin-embedded mouse lung tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

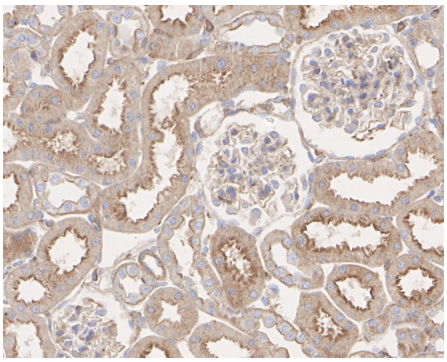

**Fig9:** Immunohistochemical analysis of paraffin-embedded rat kidney tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

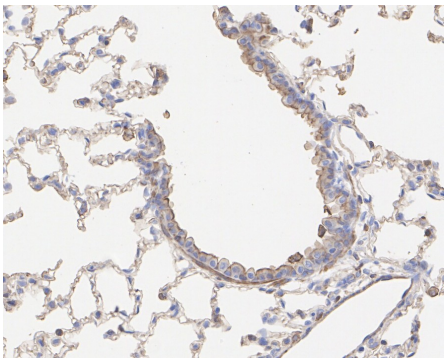

**Fig10:** Immunohistochemical analysis of paraffin-embedded rat lung tissue with Rabbit anti-beta Actin antibody (R1207-1) at 1/2,000 dilution.

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 $ddH_2O$ and PBS, and then probed with the primary antibody (R1207-1) at 1/2,000 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.

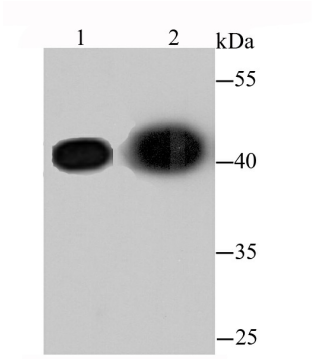


**Fig11:** Western blot analysis of β-actin on different lysates using anti-β-actin antibody at 1/1,000 dilution.
**Positive control:**
Lane 1: hybrid fish (crucian-carp) brain tissue
Lane 2: hybrid fish (crucian-carp) kidney tissue

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

## Background References

1. Ponte P., Ng S.Y., Engel J., Gunning P., Kedes L."Evolutionary conservation in the untranslated regions of actin mRNAs: DNA sequence of a human beta-actin cDNA." Nucleic Acids Res. 12:1687-1696(1984) Ohmori H., Toyama S., Toyama S."Direct proof that the primary site of action of cytochalasin on cell motility processes is actin."J. Cell Biol. 116:933-941(1992)