Beta Actin Monoclonal antibody

Catalog Number: **66009-1-lg**

### Basic Information

- **Catalog Number:** 66009-1-lg
- **Size:** 150μl, Concentration: 427 μg/ml by Bradford method using BSA as the standard
- **Source:** Mouse
- **Isotype:** IgG2b
- **GenBank Accession Number:** NM_001101
- **GeneID (NCBI):** 60
- **Full Name:** actin, beta
- **Calculated MW:** 42 kDa
- **Observed MW:** 42 kDa
- **Purification Method:** Protein A purification
- **CloneNo.:** 2D4H5
- **Recommended Dilutions:**
  - WB: 1:20000-1:100000
  - IP: 0.5-4.0 μg for IP and 1:5000-1:50000 for WB
  - IHC: 1:20-1:2000
  - IF: 1:500-1:2000

### Applications

- **Tested Applications:** FC, IF, IHC, IP, WB, ELISA
- **Cited Applications:** ChIP, CoIP, IF, IHC, IP, WB
- **Species Specificity:** human, mouse, rat, hamster, zebrafish, monkey, dog
- **Cited Species:** A.fumigatus strains, Aedes albopictus, Arabidopsis, bovine, canine, chicken, Cyprinus carpio, dog, Drosophila, duck

**Note-IHC:** suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

### Background Information

Actins are highly conserved globular proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells. At least six isoforms of actins are known in mammals and other vertebrates: alpha (ACTC1, cardiac muscle 1), alpha 1 (ACTA1, skeletal muscle) and 2 (ACTA2, aortic smooth muscle), beta (ACTB), gamma 1 (ACTG1) and 2 (ACTG2, enteric smooth muscle). Beta and gamma 1 are two non-muscle actin proteins. Most actins consist of 376aa, while ACTG2 (rich in muscles) has 375aa and ACTG1 (found in non-muscle cells) has only 374aa. Beta actin has been widely used as the internal control in RT-PCR and Western Blotting as a 42-kDa protein. However, the 41 kDa cleaved fragment of beta actin can be generated during apoptosis process. This antibody can recognize all the actins. The isotype of this antibody is IgG2b. For murine tissue sample, conjugated antibody (HRP-66009) or rabbit antibody (20536-1-AP) is preferable.

### Notable Publications

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<th>Author</th>
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<th>Journal</th>
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<tr>
<td>Wen Sheng</td>
<td>34590156</td>
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<td>Lin-Tao Xu</td>
<td>34601084</td>
<td>J Ethnopharmacol</td>
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<tr>
<td>Yong-Li Zhang</td>
<td>34679694</td>
<td>Antioxidants (Basel)</td>
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### Storage

- **Storage:** Store at -20°C. Stable for one year after shipment.
- **Storage Buffer:** PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
- **Aliquoting is unnecessary for -20°C storage**
Immunofluorescent analysis of (-20°C Methanol) fixed MDCK cells using Beta Actin antibody (66009-1-Ig, Clone: 2D4H5) at dilution of 1:1000 and CoraLite®488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L).

A549 cells (shcontrol and shRNA of Beta Actin) were subjected to SDS PAGE followed by western blot with 66009-1-Ig (Mouse anti Pan-actin antibody) at dilution of 1:10000.

IP Result of anti-beta actin (IP:66009-1-Ig, 3ug; Detection:66009-1-Ig 1:10000) with HeLa cells lysate 3100ug.

1X10^6 HeLa cells were stained with 0.05 ug Anti-Human Beta Actin (66009-1-Ig, Clone:2D4H5) and FITC-Goat anti-mouse IgG at dilution 1:100 (red), or stained with 0.05 ug isotype control and FITC-Goat anti-mouse IgG at dilution 1:100 (blue). Cells were fixed with 4% PFA and permeabilized with 0.1% TritonX-100.

Immunohistochemical analysis of paraffin-embedded human kidney using 66009-1-Ig at dilution of 1:500 (under 40x lens).

Various lysates were subjected to SDS PAGE followed by western blot with 66009-1-Ig (Beta Actin antibody) at dilution of 1:200000 incubated at room temperature for 1.5 hours.