

**DATASHEET**

**Beta-actin Mouse Monoclonal Antibody(C3836)**

CAT. NO. AMA03448

**KEY FEATURES**

|               |                                                                                |               |              |
|---------------|--------------------------------------------------------------------------------|---------------|--------------|
| Target        | Beta-actin                                                                     | Source / Host | Mouse        |
| Reactivity    | Human, Mouse, Rat                                                              | Clonality     | Monoclonal   |
| Applications  | WB, IHC, IF/ICC, FC                                                            | Conjugation   | Unconjugated |
| Form / Buffer | Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide. | Storage       | at-20°C      |

**BACKGROUND**

Actin is a highly conserved protein that polymerizes to produce filaments that form cross-linked networks in the cytoplasm of cells . Actin exists in both monomeric (G-actin) and polymeric (F-actin) forms, both forms playing key functions, such as cell motility and contraction . 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 . Plays a role in the assembly of the gamma-tubulin ring complex (gTuRC), which regulates the minus-end nucleation of alpha-beta tubulin heterodimers that grow into microtubule protofilaments . Part of the ACTR1A/ACTB filament around which the dynactin complex is built .

**APPLICATION**

To ensure optimal assay performance, AREX recommends conducting reagent titration tailored to each testing system for optimal detection results.

|     |                |
|-----|----------------|
| WB  | 1:500 - 1:2000 |
| IHC | 1:50 - 1:200   |
| FC  | 1:10 - 1:50    |

\*Results are sample-specific. Please refer to your local assay conditions and test parameters for reference.

**PRODUCT OVERVIEW**

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
| Description       | Mouse monoclonal antibody to Beta-actin                                            |
| Specificity       | Recognizes endogenous levels of Beta-actin protein.                                |
| Antibody Type     | Primary antibody                                                                   |
| Immunogen         | Recombinant fusion protein of human Beta-actin. The exact sequence is proprietary. |
| Purification      | This antibody is purified through a protein G column.                              |
| Molecular Weight  | Predicted: 41 kD; Observed: 41 kD                                                  |
| Form/Buffer       | Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.     |
| Alternative Names | Actin, cytoplasmic 1; Beta-actin                                                   |
| Gene Symbol       | ACTB                                                                               |
| Entrez Gene       | 60(Human); 11461(Mouse); 81822(Rat)                                                |
| SwissProt         | P60709(Human); P60710(Mouse); P60711(Rat)                                          |

\*AREX continuously optimizes our products. Webpage content may not reflect the latest updates. For inquiries, please contact [info@arexbio.com](mailto:info@arexbio.com) or your local distributor.

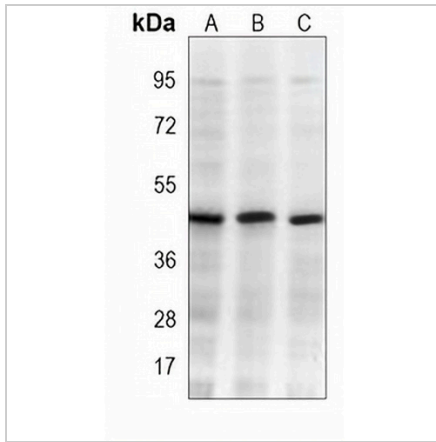
\*Clone Number, Reactivity, Source/Host and Clonality can be found in the product name and Key Features section above.

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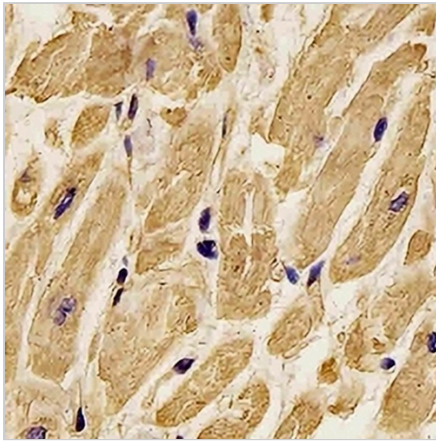
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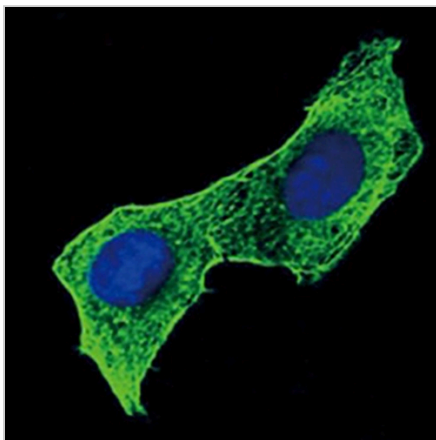
**DATA**



Western blot analysis of Beta-actin expression in HeLa (A), A431 (B), C2C12 (C) whole cell lysates. (Predicted band size: 41 kD; Observed band size: 41 kD)



Immunohistochemical analysis of Beta-actin staining in human heart formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



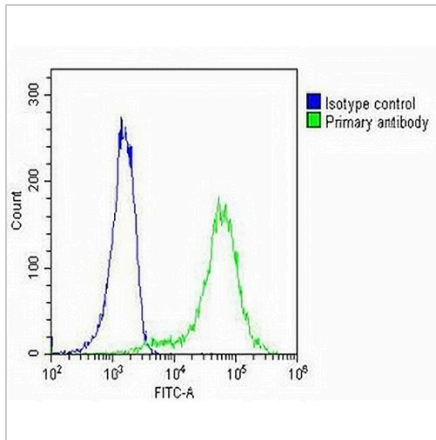
Immunofluorescent analysis of Beta-actin staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AREX® Fluor 488 -conjugated secondary antibody (green) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

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**DATA (CONTINUED)**



Flow cytometric analysis of A431 cells using Anti-Beta-actin Antibody. The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody at 37 °C for 60 min. The secondary antibody Goat Anti-Mouse IgG (H&L) - AREX® Fluor 488 was incubated at 37 °C for 40 min. Isotype control antibody (blue line) was used under the same condition.

**STORAGE**

Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.

**NOTE**

For Research Use Only. Not for diagnostic, therapeutics, prophylactic or in vivo use.