

β-Actin (ACTBD11B7): sc-81178

BACKGROUND

All eukaryotic cells express Actin, which often constitutes as much as 50% of total cellular protein. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. While lower eukaryotes, such as yeast, have only one Actin gene, higher eukaryotes have several isoforms encoded by a family of genes. At least six types of Actin are present in mammalian tissues and fall into three classes. α-Actin expression is limited to various types of muscle, whereas β- and γ-Actin are the principle constituents of filaments in other tissues. Members of the small GTPase family regulate the organization of the Actin cytoskeleton. Rho controls the assembly of Actin stress fibers and focal adhesion. Rac regulates Actin filament accumulation at the plasma membrane. Cdc42 stimulates formation of filopodia.

CHROMOSOMAL LOCATION

Genetic locus: ACTB (human) mapping to 7p22.1; Actb (mouse) mapping to 5 G2.

SOURCE

β-Actin (ACTBD11B7) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of β-Actin of human origin.

PRODUCT

Each vial contains 100 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

β-Actin (ACTBD11B7) is recommended for detection of β-Actin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μg per 1 x 10⁶ cells).

Suitable for use as control antibody for β-Actin siRNA (h): sc-108069, β-Actin siRNA (m): sc-108070, β-Actin siRNA (r): sc-156106, β-Actin shRNA Plasmid (h): sc-108069-SH, β-Actin shRNA Plasmid (m): sc-108070-SH, β-Actin shRNA Plasmid (r): sc-156106-SH, β-Actin shRNA (h) Lentiviral Particles: sc-108069-V, β-Actin shRNA (m) Lentiviral Particles: sc-108070-V and β-Actin shRNA (r) Lentiviral Particles: sc-156106-V.

Molecular Weight of β-Actin: 43 kDa.

Molecular Weight of β-Actin C-terminal region: 15 kDa.

Positive Controls: ACTC1 (m): 293T Lysate: sc-126392, U-2 OS cell lysate: sc-2295 or A-10 cell lysate: sc-3806.

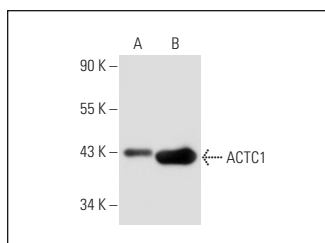
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

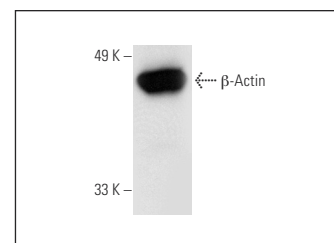
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



β-Actin (ACTBD11B7): sc-81178. Western blot analysis of ACTC1 expression in non-transfected: sc-117752 (A) and mouse ACTC1 transfected: sc-126392 (B) 293T whole cell lysates.



β-Actin (ACTBD11B7): sc-81178. Western blot analysis of β-Actin expression in A-10 whole cell lysate.

SELECT PRODUCT CITATIONS

- Huc, L., et al. 2006. Multiple apoptotic pathways induced by p53-dependent acidification in benzo[a]pyrene-exposed hepatic F258 cells. *J. Cell. Physiol.* 208: 527-537.
- Rizvi, F., et al. 2015. Suppression in PHLPP2 induction by morin promotes Nrf2-regulated cellular defenses against oxidative injury to primary rat hepatocytes. *Redox Biol.* 6: 587-598.
- Pimenta, M., et al. 2015. High-intensity interval training beneficial effects on body mass, blood pressure, and oxidative stress in diet-induced obesity in ovariectomized mice. *Life Sci.* 139: 75-82.
- Ghotbaddini, M. and Powell, J.B. 2015. The AhR ligand, TCDD, regulates androgen receptor activity differently in androgen-sensitive versus castration-resistant human prostate cancer cells. *Int. J. Environ. Res. Public Health* 12: 7506-7518.
- Zhao, J., et al. 2015. Foxp1 regulates the proliferation of hair follicle stem cells in response to oxidative stress during hair cycling. *PLoS ONE* 10: e0131674.
- Bargut, T.C., et al. 2015. A high-fish-oil diet prevents adiposity and modulates white adipose tissue inflammation pathways in mice. *J. Nutr. Biochem.* 26: 960-969.
- Upadhyay, A., et al. 2015. Ibuprofen induces mitochondrial-mediated apoptosis through proteasomal dysfunction. *Mol. Neurobiol.* 53: 6968-6981.
- Brai, E., et al. 2016. Notch1 hallmarks fibrillary depositions in sporadic Alzheimer's disease. *Acta Neuropathol. Commun.* 4: 64.
- Santillo, A., et al. 2016. D-aspartate induces proliferative pathways in spermatogonial GC-1 cells. *J. Cell. Physiol.* 231: 490-495.



See **β-Actin (C4): sc-47778** for β-Actin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.