

β-Actin (N-21): sc-130656

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 and Cdc42 stimulates formation of filopodia.

CHROMOSOMAL LOCATION

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

SOURCE

β-Actin (N-21) is a Protein A purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of β-Actin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin, 15% glycerol, 0.25% BSA and 0.005% thimerosal.

APPLICATIONS

β-Actin (N-21) is recommended for detection of β-Actin of mouse, human and rabbit 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of β-Actin: 43 kDa.

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

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

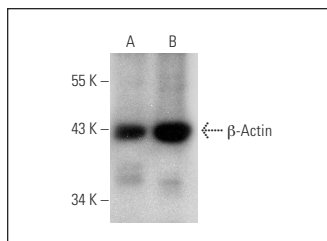
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

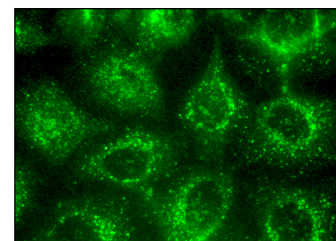
RESEARCH USE

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

DATA



β-Actin (N-21): sc-130656. Western blot analysis of β-Actin expression in HeLa (A) and NIH/3T3 (B) whole cell lysates.



β-Actin (N-21): sc-130656. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic mmp granules localization.

SELECT PRODUCT CITATIONS

- Tomasi, M.L., et al. 2009. S-adenosylmethionine regulates apurinic/apyrimidinic endonuclease 1 stability: implication in hepatocarcinogenesis. *Gastroenterology* 136: 1025-1036.
- Xu, G., et al. 2009. Global profiling of protease cleavage sites by chemo-selective labeling of protein N-termini. *Proc. Natl. Acad. Sci. USA* 106: 19310-19315.
- Legoffic, A., et al. 2009. The reg4 gene, amplified in the early stages of pancreatic cancer development, is a promising therapeutic target. *PLoS ONE* 4: e7495.
- Garbin, U., et al. 2009. Cigarette smoking blocks the protective expression of Nrf2/ARE pathway in peripheral mononuclear cells of young heavy smokers favouring inflammation. *PLoS ONE* 4: e8225.
- Garbin, U., et al. 2013. Expansion of necrotic core and shedding of Mertk receptor in human carotid plaques: a role for oxidized polyunsaturated fatty acids? *Cardiovasc. Res.* 97: 125-133.
- Li, X., et al. 2013. Engagement of soluble resistance-related calcium binding protein (sorcin) with foot-and-mouth disease virus (FMDV) VP1 inhibits type I interferon response in cells. *Vet. Microbiol.* 166: 35-46.
- Wang, Q., et al. 2013. RLIP76 is overexpressed in human glioblastomas and is required for proliferation, tumorigenesis and suppression of apoptosis. *Carcinogenesis* 34: 916-926.
- Yang, Y., et al. 2013. Cell cycle stage-specific roles of Rad18 in tolerance and repair of oxidative DNA damage. *Nucleic Acids Res.* 41: 2296-2312.



Try **β-Actin (C4): sc-47778** or **β-Actin (AC-15): sc-69879**, our highly recommended monoclonal alternatives to β-Actin (N-21). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **β-Actin (C4): sc-47778**.