SANTA CRUZ BIOTECHNOLOGY, INC.

Actin (H-196): sc-7210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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.

REFERENCES

1. Doolittle, R.F. 1995. The origins and evolution of eukaryotic proteins. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 349: 235-240.
2. Maccioni, R.B., et al. 1995. Role of microtubule-associated proteins in the control of microtubule assembly. Physiol. Rev. 75: 835-864.

SOURCE

Actin (H-196) is a rabbit polyclonal antibody raised against amino acids 180-375 of Actin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Actin (H-196) is available conjugated to either phycoerythrin (sc-7210 PE) or fluorescein (sc-7210 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

Actin (H-196) is recommended for detection of a broad range of Actin isoforms 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Actin (H-196) is also recommended for detection of a broad range of Actin isoforms in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Actin: 43 kDa.

Positive Controls: A-10 cell lysate: sc-3806, HL-60 whole cell lysate: sc-2209 or Sol8 cell lysate: sc-2249.

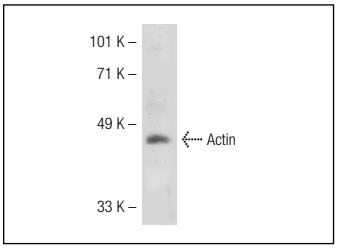
STORAGE

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

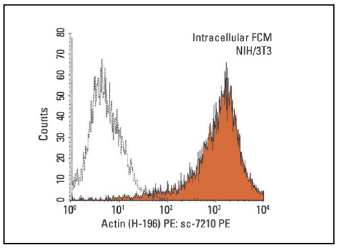
RESEARCH USE

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

DATA



Actin (H-196): sc-7210. Western blot analysis of Actin expression in A-10 whole cell lysate.



Actin (H-196) PE: sc-7210 PE. Intracellular FCM analy-sis of fixed and permeabilized NIH/3T3 cells. Black line histogram represents the isotype control, normal rabbit IgG: sc-3871.

SELECT PRODUCT CITATIONS

1. Aktas, H., et al. 1998. Depletion of intracellular Ca^{2+} stores, phosphorylation of eIF2 , and sustained inhibition of translation initiation mediate the anticancer effects of clotrimazole. Proc. Natl. Acad. Sci. USA 95: 8280-8285.
2. Chakraborty, P., et al. 2011. Amelioration of cisplatin-induced nephrotoxicity in mice by oral administration of diphenylmethyl selenocyanate. Free Radic. Res. 45: 177-187.
3. Brahmaraju, M., et al. 2011. AIRE1A might be involved in cyclin B2 degradation in testicular lysates. Biochem. Cell Biol. 89: 411-422.
4. Vidya Priyadarsini, R., et al. 2012. Aberrant activation of Wnt/β-catenin signaling pathway contributes to the sequential progression of DMBA-induced HBP carcinomas. Oral Oncol. 48: 33-39.
5. Wang, Z., et al. 2012. Advanced glycation end-product Nε-carboxymethyllysine accelerates progression of atherosclerotic calcification in diabetes. Atherosclerosis 221: 387-396.
6. Sundin, T., et al. 2012. The isoprenoid perillyl alcohol inhibits telomerase activity in prostate cancer cells. Biochimie 94: 2639-2648.
7. Wang, Q., et al. 2012. Hepatitis C virus induced a novel apoptosis-like death of pancreatic β cells through a caspase 3-dependent pathway. PLoS ONE 7: e38522.
8. Paepe, B.D., et al. 2012. Heat shock protein families 70 and 90 in Duchenne muscular dystrophy and inflammatory myopathy: balancing muscle protection and destruction. Neuromuscul. Disord. 22: 26-33.
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