

14-3-3 β (60C10): sc-59419

BACKGROUND

14-3-3 proteins regulate many cellular processes relevant to cancer biology, notably apoptosis, mitogenic signaling and cell-cycle checkpoints. Seven isoforms comprise this family of signaling intermediates, denoted 14-3-3 β , γ , ϵ , ζ , η , θ and σ . 14-3-3 proteins form dimers that present two binding sites for ligand proteins, thereby bringing together two proteins that may not otherwise associate. These ligands largely share a 14-3-3 consensus binding motif and exhibit serine/threonine phosphorylation. 14-3-3 proteins function in broad regulation of these ligand proteins, by cytoplasmic sequestration, occupation of interaction domains and import/export sequences, prevention of degradation, activation/repression of enzymatic activity and facilitation of protein modification. Loss of expression contributes to a vast array of pathogenic cellular activities.

REFERENCES

- Morrison, D. 1994. 14-3-3: modulators of signaling proteins? *Science* 266: 56-57.
- Muratake, T., et al. 1996. Structural organization and chromosomal assignment of the human 14-3-3 β chain gene (YWHAH). *Genomics* 36: 63-69.
- Yaffe, M.B., et al. 1997. The structural basis for 14-3-3 phosphopeptide binding specificity. *Cell* 91: 961-971.

CHROMOSOMAL LOCATION

Genetic locus: YWHAB (human) mapping to 20q13.12; Ywhab (mouse) mapping to 2 H3.

SOURCE

14-3-3 β (60C10) is a mouse monoclonal antibody raised against recombinant 14-3-3 β of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2b} in 100 μ l of HEPES with 0.15M NaCl, 25% glycerol, 0.1% gelatin azide, < 0.03% sodium azide and < 0.01% stabilizer protein.

APPLICATIONS

14-3-3 β (60C10) is recommended for detection of 14-3-3 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for 14-3-3 β siRNA (h): sc-29186, 14-3-3 β siRNA (m): sc-29187, 14-3-3 β siRNA (r): sc-270534, 14-3-3 β shRNA Plasmid (h): sc-29186-SH, 14-3-3 β shRNA Plasmid (m): sc-29187-SH, 14-3-3 β shRNA Plasmid (r): sc-270534-SH, 14-3-3 β shRNA (h) Lentiviral Particles: sc-29186-V, 14-3-3 β shRNA (m) Lentiviral Particles: sc-29187-V and 14-3-3 β shRNA (r) Lentiviral Particles: sc-270534-V.

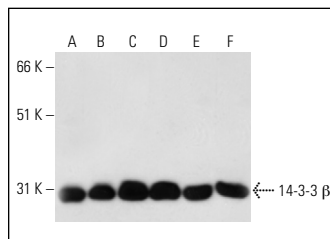
Molecular Weight of 14-3-3 β : 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or 14-3-3 β (h2): 293T Lysate: sc-176768.

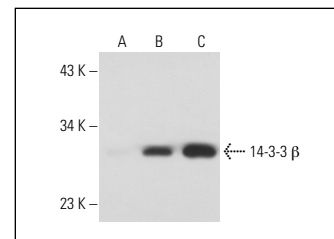
STORAGE

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

DATA



14-3-3 β (60C10): sc-59419. Western blot analysis of 14-3-3 β expression in K-562 (A), HeLa (B), NIH/3T3 (C), PC-12 (D), U-937 (E) and A-431 (F) whole cell lysates.



14-3-3 β (60C10): sc-59419. Western blot analysis of 14-3-3 β expression in non-transfected 293T: sc-117752 (A), human 14-3-3 β transfected 293T: sc-176768 (B) and A-431 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Karasawa, T., et al. 2010. CLIMP-63 is a gentamicin-binding protein that is involved in drug-induced cytotoxicity. *Cell Death Dis.* 1: e102.
- Koumanov, F., et al. 2011. AS160 phosphotyrosine-binding domain constructs inhibit Insulin-stimulated Glut4 vesicle fusion with the plasma membrane. *J. Biol. Chem.* 286: 16574-16582.
- Perdigão-Henriques, R., et al. 2016. MiR-200 promotes the mesenchymal to epithelial transition by suppressing multiple members of the Zeb2 and Snail1 transcriptional repressor complexes. *Oncogene* 35: 158-172.
- Wang, C., et al. 2020. SRPK1 acetylation modulates alternative splicing to regulate cisplatin resistance in breast cancer cells. *Commun. Biol.* 3: 268.
- Nguyen, T., et al. 2020. HDAC inhibitors elicit metabolic reprogramming by targeting super-enhancers in glioblastoma models. *J. Clin. Invest.* 130: 3699-3716.
- Park, Y.H., et al. 2020. Ancient familial Mediterranean fever mutations in human Pylori and resistance to *Yersinia pestis*. *Nat. Immunol.* 21: 857-867.
- Kirschberg, M., et al. 2021. Novel insights into cellular changes in HPV8-E7 positive keratinocytes: a transcriptomic and proteomic analysis. *Front. Microbiol.* 12: 672201.
- Upadhyay, S., et al. 2021. Role of 14-3-3 β protein on ovarian folliculogenesis, steroidogenesis and its correlation in the pathogenesis of PCOS in mice. *Gen. Comp. Endocrinol.* 313: 113900.

RESEARCH USE

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



See **14-3-3 β (A-6): sc-25276** for 14-3-3 β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.