

14-3-3 ζ (1B3): sc-293415

The Power to Question

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, and thus loss of expression contributes to a vast array of pathogenic cellular activities.

CHROMOSOMAL LOCATION

Genetic locus: YWHAZ (human) mapping to 8q22.3; Ywhaz (mouse) mapping to 15 B3.1.

SOURCE

14-3-3 ζ (1B3) is a mouse monoclonal antibody raised against amino acids 51-150 representing partial length 14-3-3 ζ of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

14-3-3 ζ (1B3) is recommended for detection of 14-3-3 ζ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 14-3-3 ζ siRNA (h): sc-29583, 14-3-3 ζ siRNA (m): sc-29585, 14-3-3 ζ siRNA (r): sc-156019, 14-3-3 ζ shRNA Plasmid (h): sc-29583-SH, 14-3-3 ζ shRNA Plasmid (m): sc-29585-SH, 14-3-3 ζ shRNA Plasmid (r): sc-156019-SH, 14-3-3 ζ shRNA (h) Lentiviral Particles: sc-29583-V, 14-3-3 ζ shRNA (m) Lentiviral Particles: sc-29585-V and 14-3-3 ζ shRNA (r) Lentiviral Particles: sc-156019-V.

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

Positive Controls: HL-60 whole cell lysate: sc-2209 or 14-3-3 ζ transfected 293T whole cell lysate.

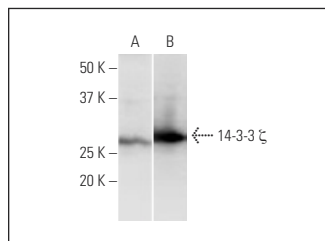
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

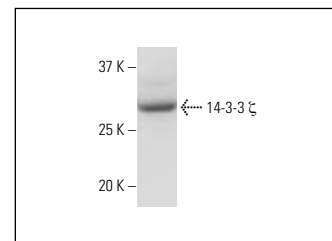
STORAGE

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 ζ (1B3): sc-293415. Western blot analysis of 14-3-3 ζ expression in non-transfected (A) and 14-3-3 ζ transfected (B) 293T whole cell lysates.



14-3-3 ζ (1B3): sc-293415. Western blot analysis of 14-3-3 ζ expression in HL-60 whole cell lysate.

SELECT PRODUCT CITATIONS

- Prince, T., et al. 2018. Dual targeting of HSP70 does not induce the heat shock response and synergistically reduces cell viability in muscle invasive bladder cancer. *Oncotarget* 9: 32702-32717.
- Flora, G.D., et al. 2019. Non-genomic effects of the pregnane X receptor negatively regulate platelet functions, thrombosis and haemostasis. *Sci. Rep.* 9: 17210.
- Abdrabou, A., et al. 2020. Differential subcellular distribution and translocation of seven 14-3-3 isoforms in response to EGF and during the cell cycle. *Int. J. Mol. Sci.* 21: 318.
- Ruff, S.E., et al. 2021. PIM1 phosphorylation of the androgen receptor and 14-3-3 ζ regulates gene transcription in prostate cancer. *Commun. Biol.* 4: 1221.
- Alatawi, K.A., et al. 2021. 1,8-cineole affects agonists-induced platelet activation, thrombus formation and haemostasis. *Cells* 10: 2616.
- Zhang, X., et al. 2022. Targeting lysine-specific demethylase 1A inhibits renal epithelial-mesenchymal transition and attenuates renal fibrosis. *FASEB J.* 36: e22122.
- García-Alonso, S., et al. 2022. Structure of the RAF1-HSP90-CDC37 complex reveals the basis of RAF1 regulation. *Mol. Cell* 82: 3438-3452.e8.
- Agborbesong, E., et al. 2023. Prdx5 regulates DNA damage response through autophagy-dependent Sirt2-p53 axis. *Hum. Mol. Genet.* 32: 567-579.
- Mishra, D., et al. 2023. PKC α isoform inhibits insulin signaling and aggravates neuronal insulin resistance. *Mol. Neurobiol.* 60: 6642-6659.
- Yang, Q., et al. 2023. Regulation of lipolysis by 14-3-3 proteins on human adipocyte lipid droplets. *PNAS Nexus* 2: pgad420.

RESEARCH USE

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