SANTA CRUZ BIOTECHNOLOGY, INC.

14-3-3 η (K-12): sc-17286

SANTA CRUZ BIOTECHNOLOGY

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: YWHAH (human) mapping to 22q12.3; Ywhah (mouse) mapping to 5 B1.

SOURCE

14-3-3 η (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 14-3-3 η 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.

Blocking peptide available for competition studies, sc-17286 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

14-3-3 η (K-12) is recommended for detection of 14-3-3 η 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

14-3-3 η (K-12) is also recommended for detection of 14-3-3 η in additional species, including equine.

Suitable for use as control antibody for 14-3-3 η siRNA (h): sc-43581, 14-3-3 η siRNA (m): sc-43582, 14-3-3 η shRNA Plasmid (h): sc-43581-SH, 14-3-3 η shRNA Plasmid (m): sc-43582-SH, 14-3-3 η shRNA (h) Lentiviral Particles: sc-43581-V and 14-3-3 η shRNA (m) Lentiviral Particles: sc-43582-V.

Molecular Weight of 14-3-3 η: 28 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or 14-3-3 η (m): 293T Lysate: sc-117813.

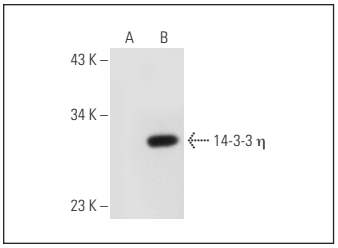
STORAGE

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

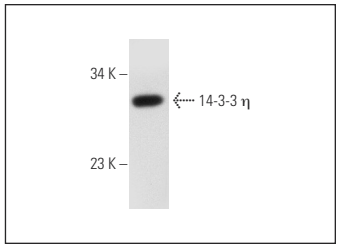
RESEARCH USE

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

DATA



14-3-3 η (K-12): sc-17286. Western blot analysis of 14-3-3 η expression in non-transfected: sc-117752 (**A**) and mouse 14-3-3 η transfected: sc-117813 (**B**) 293T whole cell lysates.



14-3-3 η (K-12): sc-17286. Western blot analysis of 14-3-3 η expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ubl, A., et al. 2002. 14-3-3 protein is a component of Lewy bodies in Parkinson's disease-mutation analysis and association studies of 14-3-3 η. Brain Res. Mol. Brain Res. 108: 33-39.
2. Bersano, A., et al. 2006. Detection of CSF 14-3-3 protein in Guillain-Barre syndrome. Neurology 67: 2211-2216.
3. Fujii, K., et al. 2006. 14-3-3 protein detection in the cerebrospinal fluid of patients with influenza-associated encephalopathy. J. Child Neurol. 21: 562-565.
4. Lau, J.M. and Muslin, A.J. 2009. Analysis of 14-3-3 family member function in *Xenopus* embryos by microinjection of antisense morpholino oligos. Methods Mol. Biol. 518: 31-41.
5. Liang, S., et al. 2009. Isoform-specific expression and characterization of 14-3-3 proteins in human glioma tissues discovered by stable isotope labeling with amino acids in cell culture-based proteomic analysis. Proteomics Clin. Appl. 3: 743-753.
6. Yu, D., et al. 2010. miR-451 protects against erythroid oxidant stress by repressing 14-3-3 ζ. Genes Dev. 24: 1620-1633.
7. Kent, C.B., et al. 2010. 14-3-3 proteins regulate protein kinase a activity to modulate growth cone turning responses. J. Neurosci. 30: 14059-14067.
8. Workman, E.R., et al. 2015. Rapid antidepressants stimulate the decoupling of $GABA_B$ receptors from GIRK/Kir3 channels through increased protein stability of 14-3-3 η. Mol. Psychiatry 20: 298-310.

MONOS Satisfaction Guaranteed

Try **14-3-3 η (6A12): sc-293464** or **pan 14-3-3 (H-8): sc-1657**, our highly recommended monoclonal alternatives to 14-3-3 η (K-12).