SANTA CRUZ BIOTECHNOLOGY, INC.

14-3-3 θ (C-17): sc-732

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: YWHAQ (human) mapping to 2p25.1; Ywhaq (mouse) mapping to 12 A1.3.

SOURCE

14-3-3 θ (C-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of 14-3-3 θ of rat 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-732 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

14-3-3 θ (C-17) is recommended for detection of 14-3-3 θ 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), immunohistochemistry (including paraffin-embedded sections) (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).

14-3-3 θ (C-17) is also recommended for detection of 14-3-3 θ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for 14-3-3 θ siRNA (h): sc-29586, 14-3-3 θ siRNA (m): sc-29587, 14-3-3 θ shRNA Plasmid (h): sc-29586-SH, 14-3-3 θ shRNA Plasmid (m): sc-29587-SH, 14-3-3 θ shRNA (h) Lentiviral Particles: sc-29586-V and 14-3-3 θ shRNA (m) Lentiviral Particles: sc-29587-V.

Molecular Weight of 14-3-3 θ: 30 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

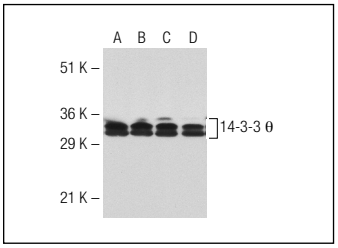
RESEARCH USE

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

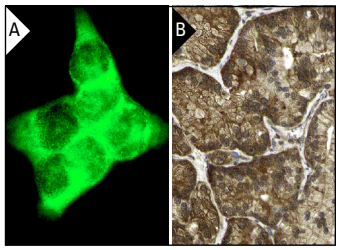
STORAGE

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 θ (C-17): sc-732. Western blot analysis of 14-3-3 θ expression in NIH/3T3 (**A**), KNRK (**B**), HeLa (**C**) and A-431 (**D**) whole cell lysates.



14-3-3 θ (C-17): sc-732. Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate cancer tissue showing cytoplasmic staining of tumor cells (high magnification). Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Li, J.M., et al. 1998. Transforming growth factor stimulates the human immunodeficiency virus 1 enhancer and requires NFκB activity. Mol. Cell. Biol. 18: 110-121.
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3. Kelly-Spratt, K.S., et al. 2009. Inhibition of PI-3K restores nuclear p27Kip1 expression in a mouse model of Kras-driven lung cancer. Oncogene 28: 3652-3662.
4. Mangin, P.H., et al. 2009. Identification of five novel 14-3-3 isoforms interacting with the GPIb-IX complex in platelets. J. Thromb. Haemost. 7: 1550-1555.
5. Larriba, M.J., et al. 2010. Novel snail1 target proteins in human colon cancer identified by proteomic analysis. PLoS ONE 5: e10221.
6. Liang, X., et al. 2010. AS160 modulates aldosterone-stimulated epithelial sodium channel forward trafficking. Mol. Biol. Cell 21: 2024-2033.
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8. Lopitz-Otsoa, F., et al. 2012. Integrative analysis of the ubiquitin proteome isolated using tandem ubiquitin binding entities (TUBEs). J. Proteomics 75: 2998-3014.