SANTA CRUZ BIOTECHNOLOGY, INC.

pan 14-3-3 (K-19): sc-629

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.

SOURCE

pan 14-3-3 (K-19) is available as either rabbit (sc-629) or goat (sc-629-G) polyclonal affinity purified antibody raised against a peptide mapping at the N-terminus of 14-3-3 β of human origin.

PRODUCT

Each vial contains either 100 µg (sc-629) or 200 µg (sc-629-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-629 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-629 PE, 100 tests; as agarose conjugate for immunoprecipitation, sc-629 AC, 500 µg/0.25 ml agarose in 1 ml; and as Alexa Fluor® 405 (sc-629 AF405), Alexa Fluor® 488 (sc-629 AF488) or Alexa Fluor® 647 (sc-629 AF647) conjugates for cytometry flow or immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

pan 14-3-3 (K-19) is recommended for detection of pan 14-3-3 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).

pan 14-3-3 (K-19) is also recommended for detection of pan 14-3-3 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of pan 14-3-3: 30 kDa.
Positive Controls:p27 (m): 293T Lysate: sc-122312; HeLa whole well lysate: sc-2200, Jurkat whole cell lysate: sc-2204.

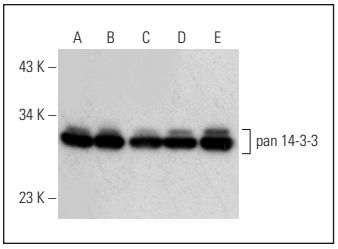
STORAGE

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

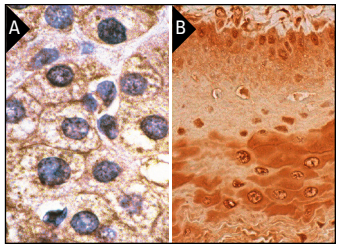
RESEARCH USE

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

DATA



pan 14-3-3 (K-19)-G: sc-629-G. Western blot analysis of pan 14-3-3 expression in A-431 (**A**), K-562 (**B**), U-937 (**C**), HeLa (**D**) and Jurkat (**E**) whole cell lysates.



pan 14-3-3 (K-19): sc-629. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tumor showing cytoplasmic staining of hepatocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Peng, C.Y., et al. 1997. Mitotic and G_2 checkpoint control: regulation of 14-3-3 protein binding by phosphorylation of Cdc25C on Serine 216. Science 277: 1501-1505.
2. Mir, S.U., et al. 2012. Neutrophil gelatinase-associated lipocalin (NGAL) expression is dependent on the tumor-associated ω-2 receptor S2RPgrmc1. J. Biol. Chem. 287: 14494-14501.
3. Pronsato, L., et al. 2012. Testosterone exerts antiapoptotic effects against H_2O_2 in C2C12 skeletal muscle cells through the apoptotic intrinsic pathway. J. Endocrinol. 212: 371-381.
4. Inglés-Esteve, J., et al. 2012. Inhibition of specific NFκB activity contributes to the tumor suppressor function of 14-3-3σ in breast cancer. PLoS ONE 7: e38347.
5. Lopitz-Otsoa, F., et al. 2012. Integrative analysis of the ubiquitin proteome isolated using tandem ubiquitin binding entities (TUBEs). J. Proteomics 75: 2998-3014.
6. Di Paola, D. and Zannis-Hadjopoulos, M. 2012. Comparative analysis of pre-replication complex proteins in transformed and normal cells. J. Cell. Biochem. 113: 1333-1347.
7. Chang, C.W., et al. 2013. Acute β-adrenergic activation triggers nuclear import of histone deacetylase 5 and delays G_θ-induced transcriptional activation. J. Biol. Chem. 288: 192-204.

MONOS Satisfaction Guaranteed

Try **pan 14-3-3 (B-8): sc-133233** or **pan 14-3-3 (B-11): sc-133232**, our highly recommended monoclonal alternatives to pan 14-3-3 (K-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **pan 14-3-3 (B-8): sc-133233**.