SANTA CRUZ BIOTECHNOLOGY, INC.

p-Thr (H-2): sc-5267

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein kinases catalyze the phosphorylation of serine, threonine or tyrosine residues in target substrates, providing a mechanism of control for myriad cellular signaling pathways. Threonine phosphorylation plays a role in the activation of ERK and JNK MAP kinases, which are dually phosphorylated on tyrosine and threonine residues by MEK family kinases. Several families of kinases phosphorylate both serine and threonine residues in target substrates, including the Raf, Rsk, ROCK, PAK, Ak and PKC families of protein kinases. Antibodies to phosphothreonine may be used for the characterization of proteins with phosphorylated threonine residues and for the elucidation of cellular pathways involving threonine phosphorylation.

SOURCE

p-Thr (H-2) is a mouse monoclonal antibody raised against p-Thr.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-Thr (H-2) is available conjugated to agarose (sc-5267 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5267 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5267 PE), fluorescein (sc-5267 FITC), Alexa Fluor® 488 (sc-5267 AF488), Alexa Fluor® 546 (sc-5267 AF546), Alexa Fluor® 594 (sc-5267 AF594) or Alexa Fluor® 647 (sc-5267 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5267 AF680) or Alexa Fluor® 790 (sc-5267 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p-Thr (H-2) is available conjugated to biotin (sc-5267 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to Alexa Fluor® 405 (sc-5267 AF405), 100 µg/ 2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-5267 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

p-Thr (H-2) is recommended for detection of phosphothreonine-containing proteins of broad 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); non-cross reactive with phosphotyrosine or phosphoserine.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or MCF7 whole cell lysate: sc-2206.

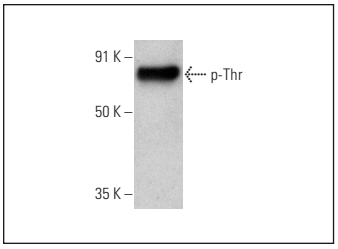
STORAGE

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

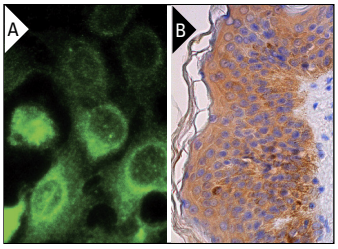
RESEARCH USE

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

DATA



p-Thr (H-2) HRP: sc-5267 HRP. Direct western blot analysis of Thr phosphorylation expression in MCF7 whole cell lysate.



p-Thr (H-2): sc-5267. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). p-Thr (H-2) HRP: sc-5267 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes (**B**).

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2001. Connexin 43 suppresses proliferation of osteosarcoma U2OS cells through post-transcriptional regulation of p27. Oncogene 20: 4138-4149.
2. Rizvi, F., et al. 2015. Suppression in PHLPP2 induction by morin promotes Nrf2-regulated cellular defenses against oxidative injury to primary rat hepatocytes. Redox Biol. 6: 587-598.
3. Cong, X., et al. 2015. Claudin-4 is required for modulation of paracellular permeability by muscarinic acetylcholine receptor in epithelial cells. J. Cell Sci. 128: 2271-2286.
4. Liu, R., et al. 2015. CDK1-Mediated SIRT3 activation enhances mitochondrial function and tumor radioresistance. Mol. Cancer Ther. 14: 2090-2102.
5. Li, C.H., et al. 2015. Gold nanoparticles increase endothelial paracellular permeability by altering components of endothelial tight junctions, and increase blood-brain barrier permeability in mice. Toxicol. Sci. 148: 192-203.
6. Fang, X.Y., et al. 2015. PRL-3 promotes the malignant progression of melanoma via triggering dephosphorylation and cytoplasmic localization of NHERF1. J. Invest. Dermatol. 135: 2273-2282.
7. Shi, J., et al. 2016. Store depletion induces $G_{\alpha q}$-mediated PLCβ1 activity to stimulate TRPC1 channels in vascular smooth muscle cells. FASEB J. 30: 702-715.
8. Cerecedo, D., et al. 2016. Alterations in plasma membrane promote overexpression and increase of sodium influx through epithelial sodium channel in hypertensive platelets. Biochim. Biophys. Acta 1858: 1891-1903.
9. Ni, Y., et al. 2017. TNFα alters occludin and cerebral endothelial permeability: role of p38MAPK. PLoS ONE 12: e0170346.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.