

p-Thr (14B3): sc-81526

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.

REFERENCES

1. Lin, C.R., et al. 1986. Protein kinase C phosphorylation at Thr 654 of the unoccupied EGF receptor and EGF binding regulate functional receptor loss by independent mechanisms. *Cell* 44: 839-848.
2. Bellacosa, A., et al. 1991. A retroviral oncogene, Akt, encoding a serine-threonine kinase containing an SH2-like region. *Science* 254: 274-277.
3. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science* 258: 478-480.
4. Chen, R.H., et al. 1993. Phosphorylation of the c-Fos transrepression domain by mitogen-activated protein kinase and 90 kDa ribosomal S6 kinase. *Proc. Natl. Acad. Sci. USA* 90: 10952-10956.
5. Pages, G., et al. 1994. Constitutive mutant and putative regulatory serine phosphorylation site of mammalian MAP kinase kinase (MEK1). *EMBO J.* 13: 3003-3010.
6. Derijard, B., et al. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. *Science* 267: 682-685.
7. Nakagawa, O., et al. 1996. Rock-I and Rock-II, two isoforms of Rho-associated coiled-coil forming protein serine/threonine kinase in mice. *FEBS Lett.* 392: 189-193.
8. Brown, J.L., et al. 1996. Human Ste20 homolog hPAK1 links GTPases to the JNK MAP kinase pathway. *Curr. Biol.* 6: 598-605.

SOURCE

p-Thr (14B3) is a mouse monoclonal antibody raised against a synthetic threonine-phosphorylated peptide.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

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.

APPLICATIONS

p-Thr (14B3) is recommended for detection of phosphothreonine-containing proteins of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 + IL-6 cell lysate: sc-24743.

SELECT PRODUCT CITATIONS

1. Baravalle, R., et al. 2017. Impact of R264C and R264H polymorphisms in human aromatase function. *J. Steroid Biochem. Mol. Biol.* 167: 23-32.
2. Biswas, R., et al. 2018. Low-level laser therapy with 850 nm recovers salivary function via membrane redistribution of aquaporin 5 by reducing intracellular Ca²⁺ overload and ER stress during hyperglycemia. *Biochim. Biophys. Acta Gen. Subj.* 1862: 1770-1780.
3. Wang, J., et al. 2019. HBx regulates transcription factor PAX8 stabilization to promote the progression of hepatocellular carcinoma. *Oncogene* 38: 6696-6710.

PROTOCOLS

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



See **p-Thr (H-2): sc-5267** for p-Thr antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.