SANTA CRUZ BIOTECHNOLOGY, INC.

p-Ser (1C8): sc-81515

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. Several families of kinases phosphorylate both serine and threonine residues in target substrates, including the Raf, Rsk, ROCK, PAK, Ak and PKC families of serine/threonine protein kinases. The modification of proteins by phosphorylation can result in three dimensional changes to the structure of the protein and thereby alter its enzymatic activity or its ability to interact with other proteins. Antibodies targeted to phosphoserine may be used for the characterization of proteins with phosphorylated serine residues, and for the elucidation of cellular pathways involving serine phosphorylation.

REFERENCES

1. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. Science 258: 478-480.
2. 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.
3. Pages, G., et al. 1994. Constitutive mutant and putative regulatory serine phosphorylation site of mammalian MAP kinase kinase (MEK1). EMBO J. 13: 3003-3010.
4. Derijard, B., et al. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. Science 267: 682-685.
5. 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.
6. Brown, J.L., et al. 1996. Human Ste20 homologue hPAK1 links GTPases to the JNK MAP kinase pathway. Curr. Biol. 6: 598-605.

SOURCE

p-Ser (1C8) is a mouse monoclonal antibody raised against phosphoserine.

PRODUCT

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

APPLICATIONS

p-Ser (1C8) is recommended for detection of a broad range of serine-phosphorylated proteins in crude cell extracts, preferring positively charged amino acids directly neighbored to phosphoserine 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)].

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.

SELECT PRODUCT CITATIONS

1. Maglione, V., et al. 2010. Impaired ganglioside metabolism in Huntington's disease and neuroprotective role of GM1. J. Neurosci. 30: 4072-4080.
2. Li, K.X., et al. 2011. Neuregulin 1 regulates excitability of fast-spiking neurons through Kv1.1 and acts in epilepsy. Nat. Neurosci. 15: 267-273.
3. Li, Y., et al. 2014. LIMK-dependent Actin polymerization in primary sensory neurons promotes the development of inflammatory heat hyperalgesia in rats. Sci. Signal. 7: ra61.
4. 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.
5. Lin, C.C., et al. 2016. TNF-α-induced $cPLA_2$ expression via NADPH oxidase/reactive oxygen species-dependent NFκB cascade on human pulmonary alveolar epithelial cells. Front. Pharmacol. 7: 447.
6. Andrusiak, M.G., et al. 2019. Inhibition of axon regeneration by liquid-like TIAR-2 granules. Neuron 104: 290-304.e8.
7. Bella, P., et al. 2020. Blockade of IGF2R improves muscle regeneration and ameliorates Duchenne muscular dystrophy. EMBO Mol. Med. 12: e11019.

PROTOCOLS

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