SANTA CRUZ BIOTECHNOLOGY, INC.

p-Ser (4A9): sc-81517

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., Alessandrini, A. and Erikson, R.L. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. Science 258: 478-480.
2. Chen, R.H., Abate, C. and Blenis, J. 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., Brunet, A., L'Allemain, G. and Pouyssegur, J. 1994. Constitutive mutant and putative regulatory serine phosphorylation site of mammalian MAP kinase kinase (MEK1). EMBO J. 13: 3003-3010.
4. Derijard, B., Raingeaud, J., Barrett, T., Wu, I.H., Han, J., Ulevitch, R.J. and Davis, R.J. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. Science 267: 682-685.
5. Nakagawa, O., Fujisawa, K., Ishizaki, T., Saito, Y., Nakao, K. and Narumiya, S. 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., Stowers, L., Baer, M., Trejo, J., Coughlin, S. and Chant, J. 1996. Human Ste20 homologue hPAK1 links GTPases to the JNK MAP kinase pathway. Curr. Biol. 6: 598-605.

SOURCE

p-Ser (4A9) 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.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

p-Ser (4A9) 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 and human 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)].

SELECT PRODUCT CITATIONS

1. Xiong, L., Meng, Q., Sun, X., Lu, X., Fu, Q., Peng, Q., Yang, J., Oh, K.W. and Hu, Z.Z. 2018. CART peptide in the nucleus accumbens shell inhibits cocaine-induced locomotor sensitization to transient overexpression of α-Ca^{2+}/calmodulin-dependent protein kinase II. J. Neurochem. 146: 289-303.

RESEARCH USE

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