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RSKB (MSK2) Antibody (C-term R321)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7011a

Product Information

Application	WB, E
Primary Accession	O75676
Other Accession	O75585
Reactivity	Mouse, Rat, Human
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	85606
Antigen Region	322-354

Additional Information

Gene ID	8986
Other Names	Ribosomal protein S6 kinase alpha-4, S6K-alpha-4, 90 kDa ribosomal protein S6 kinase 4, Nuclear mitogen- and stress-activated protein kinase 2, Ribosomal protein kinase B, RSKB, RPS6KA4, MSK2
Target/Specificity	This RSKB (MSK2) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 322-354 amino acids from the C-terminal region of human RSKB (MSK2).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RSKB (MSK2) Antibody (C-term R321) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RPS6KA4
Synonyms	MSK2

Function	Serine/threonine-protein kinase that is required for the mitogen or stress-induced phosphorylation of the transcription factors CREB1 and ATF1 and for the regulation of the transcription factor RELA, and that contributes to gene activation by histone phosphorylation and functions in the regulation of inflammatory genes. Phosphorylates CREB1 and ATF1 in response to mitogenic or stress stimuli such as UV-C irradiation, epidermal growth factor (EGF) and anisomycin. Plays an essential role in the control of RELA transcriptional activity in response to TNF. Phosphorylates 'Ser-10' of histone H3 in response to mitogenics, stress stimuli and EGF, which results in the transcriptional activation of several immediate early genes, including proto-oncogenes c-fos/FOS and c-jun/JUN. May also phosphorylate 'Ser- 28' of histone H3. Mediates the mitogen- and stress-induced phosphorylation of high mobility group protein 1 (HMGN1/HMG14). In lipopolysaccharide-stimulated primary macrophages, acts downstream of the Toll-like receptor TLR4 to limit the production of pro-inflammatory cytokines. Functions probably by inducing transcription of the MAP kinase phosphatase DUSP1 and the anti-inflammatory cytokine interleukin 10 (IL10), via CREB1 and ATF1 transcription factors.
Cellular Location	Nucleus

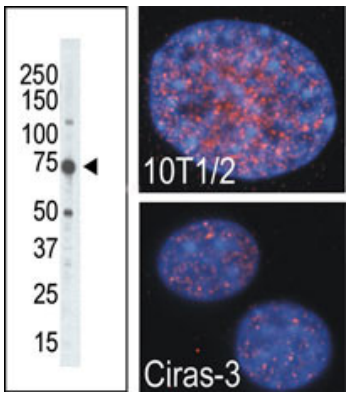
Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The AGC kinase group consists of 63 kinases including the cyclic nucleotide-regulated protein kinase (PKA & PKG) family, the diacylglycerol-activated/phospholipid-dependent protein kinase C (PKC) family, the related to PKA and PKC (RAC/Akt) protein kinase family, the kinases that phosphorylate G protein-coupled receptors family (ARK), and the kinases that phosphorylate ribosomal protein S6 family (RSK). The calcium/calmodulin-dependent kinase (CAMK) group consists of 75 kinases regulated by Ca2+/CaM and close relative family (CAMK, CAMKL, DAPK, MAPKAPK).

References

Zhu, S., et al., Hum. Genet. 103(6):674-680 (1998).
Pierrat, B., et al., J. Biol. Chem. 273(45):29661-29671 (1998).
Deak, M., et al., EMBO J. 17(15):4426-4441 (1998).

Images



The anti-MSK2 Pab (Cat. #AP7011a) is used in Western blot to detect MSK2 in placenta tissue lysate. Indirect immunofluorescence analysis showed that MSK2 is predominantly localized in the nucleus of parental (10T1/2) and oncogene-transformed (Ciras-3) mouse fibroblasts. Cells were co-stained with DAPI to visualize nucleus compartment. Data is kindly provided by B. Drobic and Dr. J. Davie from University of Manitoba (Winnipeg, Canada).

Citations

- Dynamic changes in histone H3 phosphoacetylation during early embryonic stem cell differentiation are directly mediated by mitogen- and stress-activated protein kinase 1 via activation of MAPK pathways.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.