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ProductInformation

Anti-Rsk1 (p90^{rsk})
Developed in Rabbit
Delipidized, Whole Antiserum

Product No. R 5145

Product Description

Anti-Rsk1 (p90^{rsk}) is developed in rabbit using a synthetic peptide (Lys-Glu-Ser-Ser-Ile-Leu-Ala-Gln-Arg-Arg-Val-Arg-Lys-Leu-Pro-Ser-Thr-Thr-Leu), corresponding to the C-terminal region (amino acids 707-723 with N-terminally added lysine) of human Rsk1, coupled to KLH as the immunogen. This sequence is identical in human and mouse Rsk1 and is highly conserved in chicken, *Xenopus* Rsk1 and mouse Rsk2.

Anti-Rsk1 (p90^{rsk}) reacts in immunoblotting with an intermediately phosphorylated form of Rsk1 (80 kDa protein) using a NIH/3T3 mouse fibroblasts cell lysate and rat brain extract. Detection of Rsk1 (p90^{rsk}) by immunoblotting is specifically inhibited with the immunizing human Rsk1 peptide (human Rsk1, amino acids 707-723).

The S6 kinases p90^{rsk} (Rsk) and p70^{s6k}, are ubiquitously expressed, mitogen-activated serine/threonine protein kinases. p90^{rsk} and p70^{s6k} kinases are regulated via separate signal transduction pathways in response to mitogenic stimulation.[1, 2] Rsk translocates to the nucleus upon mitogenic stimulation suggesting that it is an important component in nuclear signaling processes.[3]

Several isoforms of Rsk have been cloned from mouse (Mo1 and Mo2) [4, 5] and human (HU1-3) source.[6] All of these isoforms encode proteins with calculated molecular masses of about 70 kDa. Their apparent higher masses (90 kDa) may be due to hyperphosphorylation after activation. The phosphorylation and activation of p90^{rsk} in mitogen-stimulated cells appears to be mediated in a Ras-dependent pathway involving Raf-1, MAP kinase kinase (MEK) and MAP kinase.

Activation of p90^{rsk} occurs rapidly through phosphorylation of Thr^{396} located in the kinase catalytic domain.[7] Rsk becomes associated with MAP kinase after stimulation in several cell lines.[8]

Rsk was first identified for its ability to phosphorylate the 40S ribosomal protein S6 *in vitro*.[4, 9] However, the physiological role of Rsk in this phosphorylation *in vivo* may be limited, since most of the ribosomal S6 protein phosphorylation occurs primarily by p70^{s6k}.[10] Rsk can phosphorylate and regulate the activity of other molecules such as transcription factor c-fos,[11] and the serine/threonine protein kinase glycogen synthase kinase 3 (GSK3). Rsk is widely expressed in many tissues and cells. Antibodies that react specifically with Rsk (p90^{rsk}) may be used for the detection of p90^{rsk} and to study its differential tissue expression, intracellular localization of in normal and neoplastic tissue.

Reagent

Anti-Rsk1 (p90^{rsk}) is supplied as a liquid containing 0.1% sodium azide as preservative. The antiserum has been treated to remove lipoproteins.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile
By immunoblotting, a minimum working antibody dilution of 1:4,000 is recommended using rat brain extract or NIH-3T3 mouse fibroblasts cell lysate.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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