

RSK2 Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	90	Rabbit	#P51812	6197

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

RSK2 Antibody detects endogenous levels of total RSK2 protein. It does not cross-react with the RSK1 or RSK3 isoforms.

Species predicted to react based on 100% sequence homology

Dog

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu719 of human RSK2. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The 90 kDa ribosomal S6 kinases (RSK1-4) are a family of widely expressed Ser/Thr kinases characterized by two nonidentical, functional kinase domains (1) and a carboxy-terminal docking site for extracellular signal-regulated kinases (ERKs) (2). Several sites both within and outside of the RSK kinase domain, including Ser380, Thr359, Ser363, and Thr573, are important for kinase activation (3). RSK1-3 are activated via coordinated phosphorylation by MAPKs, autophosphorylation, and phosphoinositide-3-OH kinase (PI3K) in response to many growth factors, polypeptide hormones, and neurotransmitters (3).

Stimulation by various growth factors leads to activation of RSK2, which is a critical downstream effector kinase in several pathways. EGF stimulation leads to phosphorylation of CREB at Ser133 and phosphorylation of histone H3 *in vivo* by RSK2 (4,5). RSK2 phosphorylation of p53 may help regulate chromatin structure and cell cycle (6). RSK2 is prominently expressed in the brain and is essential for cognitive function and learning. During development, RSK2 regulates the differentiation of osteoblasts and skeletal muscle cells (7,8). Mutations in the corresponding gene are associated with Coffin-Lowry syndrome (CLS), an X-linked disorder characterized by mental retardation and the presence of characteristic facial anomalies (9).

Background References

1. Fisher, T.L. and Blenis, J. (1996) *Mol Cell Biol* 16, 1212-9.
2. Smith, J.A. et al. (1999) *J Biol Chem* 274, 2893-8.
3. Dalby, K.N. et al. (1998) *J Biol Chem* 273, 1496-505.
4. De Cesare, D. et al. (1998) *Proc Natl Acad Sci USA* 95, 12202-7.
5. Sassone-Corsi, P. et al. (1999) *Science* 285, 886-91.
6. Cho, Y.Y. et al. (2005) *Cancer Res* 65, 3596-603.
7. Yang, X. et al. (2004) *Cell* 117, 387-98.
8. Cho, Y.Y. et al. (2007) *J Biol Chem* 282, 8380-92.
9. Delaunoy, J.P. et al. (2006) *Clin Genet* 70, 161-6.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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