Revision 1

#4067 Store at -20C

Erk3 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	105	Rabbit	#Q16659	5597

Product Usage Information

Application	Dilution
Western Blotting	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

Erk3 Antibody detects endogenous levels of total Erk3 protein. The antibody does not cross-react with other other Erk family members.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu410 of human Erk3. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Erk3, also known as MAPK6 or p97 MAPK, is almost 50% identical to Erk1/2 at the kinase domain located in its amino-terminal region (1). However, Erk3 is distinguished from other MAP kinases in that it lacks the conserved TXY motif in its activation loop, possessing instead an SEG motif (1,2). Phosphorylation at Ser189 in the SEG motif has been reported (2,3). With limited information about its upstream kinases and downstream substrates, the significance of this phosphorylation remains to be elucidated (3,4). Erk3 is an inherently unstable protein, rapidly degraded through amino-terminal ubiquitination and proteasome degradation (3,5). A site-specific cleavage, depending on a short stretch of acidic residues of Erk3, might regulate its translocation from the Golgi/ERGIC to the nucleus during the cell cycle (6). Accumulating evidence suggests that Erk3 is involved in cell differentiation (1,3,6).

Background References

1. Boulton, T. G. et al. (1991) *Cell* 65, 663-675.
2. Cheng, M. et al. (1996) *J. Biol. Chem.* 271, 12057-12062.
3. Coulombe, P. et al. (2003) *Mol. Cell. Biol.* 23, 4542-4558.
4. Julien, C. et al. (2003) *J. Biol. Chem.* 278, 42615-42624.
5. Coulombe, P. et al. (2004) *Mol. Cell. Biol.* 24, 6140-6150.
6. Bind, E. et al. (2004) *Mol. Biol. Cell* 15, 4457-4466.

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

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses

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