

**MLK3 Antibody**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Hm Mk	Endogenous	92	Rabbit	#Q16584	4296

**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**

MLK3 Antibody detects endogenous levels of total MLK3 protein. This antibody does not cross-react with MLK1, MLK2 and other mixed lineage kinases.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human MLK3. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

Mixed lineage kinase 3 (MLK3) is a serine/threonine kinase that has an amino-terminal SH3 domain followed by the kinase domain and two leucine zippers, a cdc42/Rac1 binding (CRIB) domain and several other domains/motifs at the carboxy-terminal region. CRIB triggers the dimerization of MLK3 via its tandem leucine zippers, followed by the intramolecular phosphorylation and subsequent activation of MLK3 (1). Autophosphorylation of Thr277 and Ser281 is essential for MLK3 kinase activity (2). Ser281 is also phosphorylated by HPK in an *in vitro* kinase assay (2). MLK3 functions as a MAPKKK of the SAPK/JNK stress pathway by directly phosphorylating SEK1/MKK4 and MKK7, although it is controversial whether MLK3 is involved in p38 stress pathway activation (3). MLK3 also functions as an IκB kinase and mediates the activation of the transcriptional factor NF-κB stimulated by CD3/CD28, suggesting a role for MLK3 in immune and inflammatory responses (4).

**Background References**

1. Leung, I. W. et al. (1998) *J. Biol. Chem.* 273, 32408-32415.
2. Leung, I.W. and Lassam, N. (2001) *J. Biol. Chem.* 276, 1961-1967.
3. Tibbles, L. A. et al. (1996) *EMBO J.* 15, 7026-7035.
4. Hehner, S. P. et al. (2000) *Mol. Cell. Biol.* 20, 2556-2568.

**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 **Hm:** Hamster **Mk:** Monkey

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