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Store at -20C  
#5727

## MEKK3 (D36G5) Rabbit mAb

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

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 78	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q99759	<b>Entrez-Gene Id:</b> 4215
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:50

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

MEKK3 (D36G5) Rabbit mAb recognizes endogenous levels of total MEKK3 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro310 of human MEKK3 protein.

### Background

MAP kinase kinase kinase (MEKK3 or MAP3K3) is a serine/threonine protein kinase that activates SAPK and ERK via phosphorylation and activation of their respective MAP kinase kinases, SEK and MEK1/2 (1,2). MEKK3 also stimulates MEK5 via activation of ERK5/BMK1, which is at least partly regulated by a direct interaction between MEK5 and MEKK3 via p67phox-Bem1p (PB1) protein-protein interaction domains found in both proteins (3,4). MEKK3 modulates NF-κB activation in response to a variety of agonists including TNFα, LPS, IL-1 and LPA (5-9). Despite reports showing that phosphorylation of MEKK3 at Ser526 within the activation loop is necessary for kinase activation (10-12), at least one study suggests that dual phosphorylation at Thr516 and Ser520 is required for LPA-stimulated IKKβ/NF-κB activation (13). Phosphorylation at Thr294 appears to negatively regulate MEKK3 by promoting 14-3-β binding and inhibition of the kinase activity (12). Phosphorylation of MEKK3 at Thr294 is diminished upon treatment of cells with LPS or TNFα, further suggesting an inhibitory role for this site (12).

### Background References

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- Yang, J. et al. (2001) *Nat Immunol* 2, 620-4.
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- Samanta, A.K. et al. (2004) *J Biol Chem* 279, 7576-83.
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- Zhang, D. et al. (2006) *EMBO J* 25, 97-107.
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- Sun, W. et al. (2010) *J Biol Chem* 285, 7911-18.

### 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 **IP:** Immunoprecipitation

### Cross-Reactivity Key

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

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