Revision 1

#8766 Store at -20C

Phospho-IKKε (Ser172) (D1B7) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	80	Rabbit IgG	#Q14164	9641

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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

Phospho-IKKε (Ser172) (D1B7) Rabbit mAb recognizes endogenous levels of IKKε protein only when phosphorylated at Ser172. This antibody may cross-react with phospho-TBK1/NAK.

Species predicted to react based on 100% sequence homology:

Mouse, Rat, Monkey, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser172 of human IKKε protein.

Background

The NF-κB/Rel transcription factors are present in the cytosol in an inactive state, complexed with the inhibitory IκB proteins (1-3). Most agents that activate NF-κB do so through a common pathway based on phosphorylation-induced, proteasome-mediated degradation of IκB (3-7). The key regulatory step in this pathway involves activation of a high molecular weight IκB kinase (IKK) complex whose catalysis is generally carried out by three tightly associated IKK subunits. IKKα and IKKβ serve as the catalytic subunits of the kinase and IKKγ serves as the regulatory subunit (8,9). Activation of IKK depends upon phosphorylation at Ser177 and Ser181 in the activation loop of IKKβ (Ser176 and Ser180 in IKKα), which causes conformational changes, resulting in kinase activation (10-13).
Recently, two homologs of IKKα and IKKβ have been described, called IKKε (also known as IKK-i) and TBK1 (also known as T2K or NAK), and activation of either of these kinases results in NF-κB activation. IKKε contains the kinase domain in its amino terminus, which shares 30% identity to that of IKKα or IKKβ. IKKε is expressed mainly in immune cells, and may play a special role in the immune response (14-18). IKKε and TBK1 kinase capabilities are activated by phosphorylation at Ser172 within their activation loops (19). IRF-3, a substrate for IKKε and TBK1, plays a critical role in innate immune responses (20).

Background References

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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 **IP:** Immunoprecipitation

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