Revision 1

Store at -20C

#4924

Phospho-IκBε (Ser18/22) Antibody

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:
W	H M R	Endogenous	45	Rabbit	#O00221	4794

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

Phospho-IκBε (Ser18/22) Antibody detects endogenous levels of IκBε only when phosphorylated at serines 18 and 22. No cross-reactivity was detected with other family members at physiological conditions.

Species predicted to react based on 100% sequence homology

Bovine, Dog

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding serine 18/22 of human IκBε. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The NF-κB/Rel transcription factors are present in the cytosol in an inactive state complexed with the inhibitory IκB proteins (1-3). Activation occurs via phosphorylation of IκBα at Ser32 and Ser36 followed by proteasome-mediated degradation that results in the release and nuclear translocation of active NF-κB (3-7). IκBα phosphorylation and resulting Rel-dependent transcription are activated by a highly diverse group of extracellular signals including inflammatory cytokines, growth factors, and chemokines. Kinases that phosphorylate IκB at these activating sites have been identified (8).
The regulation of IκBβ and IκBε is similar to that of IκBα. However, the phosphorylation and ubiquitin-mediated degradation of these proteins occurs with much slower kinetics (9). IKK phosphorylation of IκBβ occurs at Ser19 and Ser23, while IκBε can be phosphorylated at Ser18 and Ser22 (10).

Background References

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2. Beg, A.A. and Baldwin, A.S. (1993) *Genes Dev* 7, 2064-70.
3. Finco, T.S. et al. (1994) *Proc Natl Acad Sci USA* 91, 11884-8.
4. Brown, K. et al. (1995) *Science* 267, 1485-8.
5. Brockman, J.A. et al. (1995) *Mol Cell Biol* 15, 2809-18.
6. Traenckner, E.B. et al. (1995) *EMBO J* 14, 2876-83.
7. Chen, Z.J. et al. (1996) *Cell* 84, 853-62.
8. Karin, M. and Ben-Neriah, Y. (2000) *Annu Rev Immunol* 18, 621-63.
9. Hoffmann, A. et al. (2002) *Science* 298, 1241-5.
10. Shirane, M. et al. (1999) *J Biol Chem* 274, 28169-74.

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

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