Revision 1

Store at -20C

#4921

Phospho-IκBβ (Thr19/Ser23) Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	48 to 50	Rabbit	#Q15653	4793

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-IκBβ (Thr19/Ser23) Antibody detects endogenous levels of human IκBβ only when phosphorylated at threonine 19 and serine 23. This antibody also recognizes phosphorylation at Ser19/Ser23 also reported as the sequence for IκBβ.

Species predicted to react based on 100% sequence homology

Monkey, Dog

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues of human IκBβ surrounding Thr19/Ser23. Antibodies are purified by protein A and 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). The human sequence of IκB-β has also been reported to contain a threonine at position 19 suggesting that phosphorylation could be Thr19/Ser23 (11).

Background References

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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.
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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, 1241-1245.
10. Shirane, M. et al. (1999) *J Biol Chem* 274, 28169-28174.
11. Lee, J.W. et al. (1995) *Mol Endocrinol* 9, 243-54.

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

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