IκBα (Tyr-305), phospho-specific

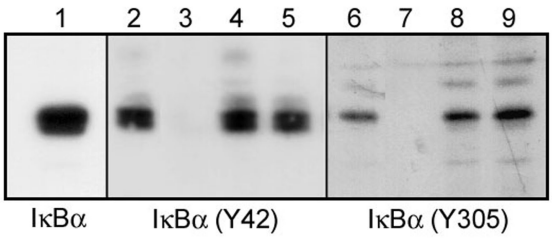
Cat. #	IP1041
Host	Rabbit Polyclonal
Size	100 µl

Background:

The NF-κB/Rel transcription factors are present in the cytosol in an inactive state complexed with the inhibitory IκB proteins. Activation of IκBα occurs through both serine and tyrosine phosphorylation events. Activation through phosphorylation at Ser-32 and Ser-36 is followed by proteasome-mediated degradation, resulting in the release and nuclear translocation of active NF-κB. This pathway of IκBα regulation occurs in response to various NF-κB-activating agents, such as TNFα, interleukins, LPS, and irradiation. An alternative pathway for IκBα regulation occurs through tyrosine phosphorylation of Tyr-42 and Tyr-305. Tyr-42 is phosphorylated in response to oxidative stress and growth factors. This phosphorylation can lead to degradation of IκBα and NF-κB-activation. In contrast, Tyr-305 phosphorylation by c-Abl has been implicated in IκBα nuclear translocation and inhibition of NF-κB-activation. Thus, tyrosine phosphorylation of IκBα may be an important regulatory mechanism in NF-κB signaling.

References

Bui, N.T. et al. (2001) J Cell Biol 152(4):753.
Finco, T.S. et al. (1994) Proc. Natl. Acad. Sci. USA 91:11884.
Waris et al. (2003) J Biol Chem 278(42):40778.



Western blot analysis of A431 cells treated with pervanadate (1 mM) for 30 min. Blots were probed with anti-IκBα (lane 1), anti-IκBα (Tyr-42) (IP1031; lanes 2-5), or anti-IκBα (Tyr-305) (IP1041; lanes 6-9). The latter two antibodies were used in the presence of no blocking peptide (lane 2 & 6), phospho-IκBα (Tyr-42) peptide (lane 3 & 8), phospho-IκBα (Tyr-305) peptide (lane 4 & 7), or BSA conjugated to phospho-tyrosine (lane 5 & 9). Peptides and BSA-pTyr were used at 1 µg/ml.

Immunogen:

IκBα (Tyr-305) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 305 of human IκBα. This peptide sequence has low homology to other IκB proteins.

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20oC. Do not aliquot. Stable for 1 year.

Applications:

WB	1:500
ELISA	1:2000

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

Specificity:

This antibody was cross-adsorbed to phospho-tyrosine coupled to agarose then affinity purified using phospho-IκBα (Tyr-305) peptide (without carrier). The antibody detects a 38 kDa* protein on SDS-PAGE immunoblots of A431 and Jurkat cells treated with pervanadate, but does not detect this band in control cells.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Related Products:

IP1031	IκBα (Tyr-42), phospho-specific Rabbit Polyclonal
IP1861	IkBa (C-terminus) Rabbit Polyclonal
IX1035	phospho-IκBα (Tyr-42) Peptide
IX1045	phospho-IkBa (Tyr-305) Peptide
AL9401	A431 Pervanadate Ctrl Lysate
AL9501	A431 + Pervanadate Lysate

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