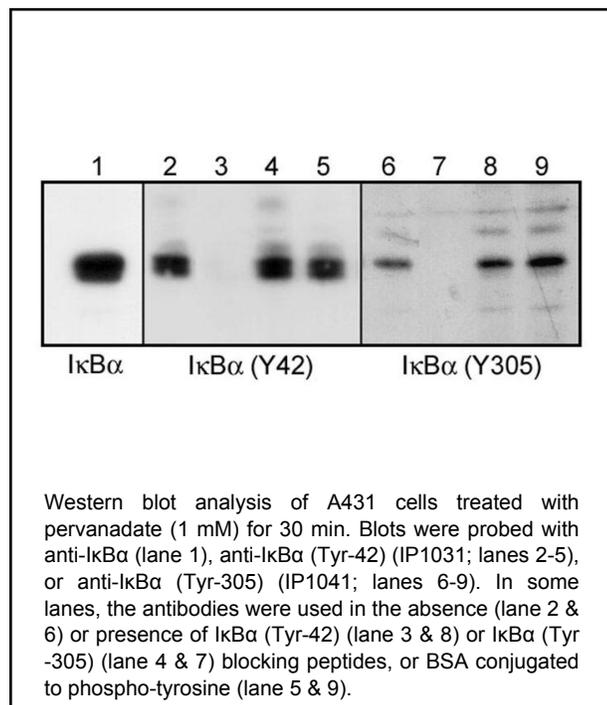


Background

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.

Background References

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



Applications

WB 1:500
 ELISA 1:2000

Species Reactivity

Hu, Rt, Ms

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.

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 1 hour at room temperature.

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

Immunogen

Uniprot ID: P25963

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 -20°C. Stable for 1 year.

Related Products

AL9401 A431 Pervanadate Control Lysate
 AL9501 A431 + Pervanadate Lysate
 IP1861 IκBα (C-terminus) Rabbit Polyclonal
 IP1031 IκBα (Tyr-42), phospho-specific Rabbit Polyclonal
 IX1035 phospho-IκBα (Tyr-42) Blocking Peptide

Product References

Pontoriero, M. et al. (2019) J Mol Med (Berl). 97(5):675.
 WB: human lymphoma cells
 Cullen, S. et al. (2015) Biomolecules. 5(1):95
 WB: ILU-18 cells

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