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ProductInformation

Anti-IκBα
Produced in rabbit, IgG fraction of antiserum

Product Number **I0505**

Product Description

Anti-IκBα is developed in rabbit using a synthetic peptide corresponding to the C-terminus of human IκBα (amino acids 297-317 with N-terminally added lysine) conjugated to KLH as immunogen. This sequence is identical in mouse and rat IκBα, and is highly conserved (single amino acid substitution) in pig IκBα. This sequence has no homology with IκBβ or IκBε. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-IκBα reacts specifically with human IκBα (36 kDa) by immunoblotting. Staining of IκBα is specifically inhibited with the IκBα immunizing peptide (human, amino acids 297-317).

NF-κB family of transcription factors are critical regulators of genes that function in inflammation, cell proliferation and apoptosis.[1, 2] NF-κB exists in the cytoplasm of resting cells but is activated and translocates to the nucleus in response to various stimuli including proinflammatory cytokines, such as TNFα and IL-1, viral infection, UV-irradiation, oxidative stress and bacterial lipopolysaccharide (LPS).[1-5] Activation of NF-κB is controlled by an inhibitory subunit, IκB, which retains NF-κB in the cytoplasm. IκB consists of a family of inhibitory proteins including IκBα, IκBβ and IκBε. IκBα is a stronger inhibitor of nuclear NF-κB activity than IκBβ and IκBε. NF-κB activation requires sequential phosphorylation, ubiquitination and degradation of IκB as well as consequent exposure of a nuclear localization signal of NF-κB. In the case of IκBα, phosphorylation occurs at Ser^{32} and Ser^{36}.[6-8] Whereas, IκBβ and IκBε have two conserved serine residues at the N-terminus for signal-induced degradation. The IκBα and IκBβ proteins are phosphorylated by a large IκB kinase (IKK) hetero-complex (700-900 kDa) consisting of at least three subunits, IKK1/α, IKK2/β protein kinases and IKKγ/NEMO, a regulatory subunit.[9-12] This phosphorylation then targets IκB for degradation by the ubiquitin-proteosome pathway, thereby liberating NF-κB that is then free to translocate to the nucleus and activate its target genes. Interestingly, one of the first genes induced following NF-κB activation is IκBα.

Reagent

Anti-IκBα is provided as the IgG fraction of antiserum in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Protein concentration is 4-10 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.
Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working dilution of 1:2,000 is determined by immunoblotting using a whole extract from a human epitheloid carcinoma HeLa cell line.

A minimum working dilution of 1:2,000 is determined by immunoblotting using a whole extract from the human epidermal carcinoma A431cell line.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

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