

Product Information

ANTI- IKK β (I κ B Kinase β)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **I 9767**

Product Description

Anti-IKK β is developed in rabbit using a synthetic peptide located near the C-terminal region of human IKK β (amino acids 720-735, with N-terminally added lysine) conjugated to KLH as immunogen. This sequence has no homology with human IKK α . Anti-IKK β is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-IKK β specifically recognizes human IKK β (85 kDa) by immunoblotting. Staining of IKK β in immunoblotting is specifically inhibited with IKK β immunizing peptide.

NF- κ B family of transcription factors are critical regulators of genes that function in inflammation, cell proliferation and apoptosis.^{1,2} NF- κ B 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 TNF- α and IL-1, viral infection, UV-irradiation, oxidative stress and bacterial lipopolysaccharide (LPS).¹⁻³

Activation of NF- κ B is controlled by the inhibitory subunits I κ B- α and I κ B- β proteins, which retains NF- κ B in the cytoplasm. NF- κ B activation requires sequential phosphorylation, ubiquitination and degradation of the I κ B proteins. I κ B phosphorylation targets I κ B for degradation by the ubiquitin-proteasome pathway. NF- κ B subsequently translocates to the nucleus and activates target genes.

I κ B proteins are phosphorylated by a large I κ B kinase (IKK) heterocomplex (700-900 kDa) consisting of at least three subunits - IKK α (IKK1, also termed CHUK) and IKK β (IKK2), which are highly similar protein kinases, and IKK- γ /NEMO, a regulatory subunit.⁴⁻⁷ *In vitro*, IKK α and IKK β can form homo- and heterodimers that can specifically phosphorylate I κ Bs directly at the regulatory Ser³² and Ser³⁶ residues.⁸ IKK α and IKK β are preferentially phosphorylated by NF- κ B-inducing kinase (NIK) and MAP kinase kinase kinase-1 (MEKK1), respectively.⁹⁻¹²

Once activated, IKK β undergoes progressive autophosphorylation at multiple serine sites located near its carboxyl terminus, resulting in decreased kinase activity and contributing to the transient nature of IKK complex activation.¹³ Targeted disruption of IKK α gene in mice results in skin and limb abnormalities and death of newborn.^{14,15} Whereas, deletion of the IKK β gene in mice leads to extensive liver damage from apoptosis and embryonic death.¹⁶

Reagent

Anti- IKK β is provided as affinity isolated antibody in 0.01 M phosphate buffered saline, pH 7.4, containing 1 % bovine serum albumin and 15 mM sodium azide.

Protein concentration is approximately 0.5 to 1 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 1:500 is determined by immunoblotting using a whole extract of the human epitheloid carcinoma HeLa cell line.

A minimum working dilution of 1:1,000 is determined by immunoblotting using recombinant human IKK β .

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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