ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Recombinant IKB alpha Protein

Cat # IKKB35-R-5 Recombinant purified human IKKB-beta (Sf9; GST-His-IKK-B), active **SIZE**: 5 ug

Three major forms of IKB like molecules have been identified and each is characterised by multiple copies of ankyrin repeats. IKB alpha and IKB beta appear to be the major regulatory forms of IKB in most cells. These proteins interact with p65 or cRel containing forms of NFkB and block nuclear import by masking the nuclear localisation sequences of NFkB. The activation of NFkB involves the inducible phosphorylation and subsequent degradation of IKB. Immunoblotting easily detects the hyperphosphorylated forms of IKB alpha, but not phosphorylated IKB beta. Interestingly, IKB alpha and IKB beta mediate different NFkB responses. IkB alpha appears to control more transient activation of NFkB in response to an inducer, while IKB beta controls a persistent response. Bcl3 interacts with p50 and p52 containing forms of NFkB, but rather than being an inhibitor it appears to function to stimulate transcription. The degradation of IKB is confirmed by immunoblotting..

IKK-β also known as inhibitor of nuclear factor kappa-B kinase subunit beta is a protein that in humans is encoded by the IKBKB (inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta) gene. IKK-β is an enzyme that serves as a protein subunit of IκB kinase, which is a component of the cytokine-activated intracellular signaling pathway involved in triggering immune responses. Its activity causes activation of a transcription factor known as Nuclear Transcription factor kappa-B or NF-κB. Activated IKK-β phosphorylates a protein called the inhibitor of NF-κB, IκB (IκBα), which binds NF-κB to inhibit its function. Phosphorylated IκB is degraded via the ubiquitination pathway, freeing NF-κB, and allowing its entry into the nucleus of the cell where it activates various genes involved in inflammation and other immune responses.

Source of Antigen and Antibodies

Recombinant human IKKB (amino acids M1-S756, accession number NM_001556) N-terminally fused to GST-His6-Thrombin cleavage site. Expressed in sf9 cell and purified by GSH-agarose affinity purification (>95%, ~120 Kda). Purified protein contains the GST-tag. It is supplied in in 50 mM Tris-HCl, pH 8.0; 100 mM NaCl, 5 mM DTT, 4 mM reduced glutathione, 20% glycerol (or see lot sp. conc on the vial). Store at -80oC for at least 6 month. Do not store diluted solutions. Avoid repeated freeze/thaw cycles and keep on ice when not in storage

Suggested uses:

Recombinant IKKβ is suitable for kinase assays and Western blot. The molecular weight of the protein is ~120 kDa. The activity of the protein is ~ 6 pmol/µg min. Recommended kinase reaction conditions: 60 mM HEPES-NaOH, pH 7.5, 3 mM MgCl2, 3 mM MnCl2, 3 µM Na-orthovanadate, 1.2 mM DTT, ATP (variable), 2.5 µg/50 µl PEG20.000, Substrate: IκBα derived peptide (R11-DDRHDSGLDSMKD), 2.5 µg/50 µl, Recombinant IKKβ: 200 ng/50 µl. Kinase activity may vary depending on the substrate and reaction conditions used.

Stability: 6-12 months at –80oC or below.
Shipping: dry ice

References: Casaborne D (2011) Haematolog. 96, 323-327; Chiang CW (2010) Biochem. J. 433, 187-196; Yamamoto Y (2000) Mol. Cell. Biol. 20, 3655-3666; Wu S (2010) J. Clin. Endocrionol. Metab. 95, 1220-1228; Fan C (2003) JBC 278, 2072-2080; Tojima Y (2000) Nature 404, 778-782; Abu-Amer Y (1998) JBC 273, 29417-29423;

*This product is for In vitro research use only.

Related items

Catalog#	ProdDescription
IKBA15-R-5	Recombinant purified human IKB-alpha (E., coli; His-tag; 1-317 aa), active
IKBA16-R-10	Recombinant purified human IKB-alpha (E., coli; GST-tag; IKB-alpha), active
IKBB25-R-10	Recombinant purified human IKB-beta (E., coli; GST-tag; IKB-beta), active
IKKB35-R-5	Recombinant purified human IKKB-beta (Sf9; GST-His-IKK-B), active

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