Active Recombinant Human IKKB-beta

Cat. No. IKBKB-88H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	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.
Species	Human
Source	Sf9 Cells
ProteinLength	1-756 a.a.
Description	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.IKKB also known as inhibitor of nuclear factor kappa-B kinase subunit beta is a protein that in

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	humans is encoded by the IKBKB (inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta) gene. IKK- is an enzyme that serves as a protein subunit of I B kinase, which is a component of the cytokineactivated 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- B.Activated IKKB phosphorylates a protein called the inhibitor of NF-B, I B (I B), which binds NF-B to inhibit its function.Phosphorylated I B is degraded via the ubiquitination pathway, freeing NF- B, and allowing its entry into the nucleus of the cellwhere it activates various genes involved in inflammation and other immune responses.
Bio-activity	The activity of the protein is ~ 6 pmol/µg min
Molecular Mass	~120 kda
Purity	>95%
Applications	Recombinant IKK is suitable for kinase assays and Western blot. 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), 2.5µg/50 µl PEG20.000, Substrate: I B derived peptide (R11-DDRHDSGLDSMKD), 2.5 µg/50 µl, Recombinant IKK : 200 ng/50 µl. Kinase activity may vary depending on the substrate and reaction conditions used.
Usage	This item is for LABORATORY RESEARCH USE ONLY.
Stability	6-12 months at –80°C or below.
Storage	Store at -80°C for at least 6 month. Do not store diluted solutions. Avoid repeated freeze/thaw cycles and keep on ice when not in storage

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Storage Buffer	It is supplied in in 50 mM Tris-HCl, pH 8.0; 100 mM NaCl, 5 mM DTT, 4 mM reduced glutathione, 20% glycerol.
Shipping	dry ice
Warning	Do not store diluted solutions. Avoid repeated freeze/thaw cycles and keep on ice when not in storage.

GENE INFORMATION

Gene Name	IKBKB inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta [Homo sapiens]
Official Symbol	IKBKB
Synonyms	IKBKB; inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta; inhibitor of nuclear factor kappa-B kinase subunit beta; IKK beta; IKK2; IKKB; NFKBIKB; IKK-B; I-kappa-B kinase 2; I-kappa-B-kinase beta; nuclear factor NF-kappa-B inhibitor kinase beta; IKK-beta; FLJ33771; FLJ36218; FLJ38368; FLJ40509; MGC131801;
Gene ID	3551
mRNA Refseq	NM_001190720
Protein Refseq	NP_001177649
MIM	603258
UniProt ID	O14920

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Chromosome Location	8p11.2
Pathway	Activated TLR4 signalling, organism-specific biosystem; Activation of NF-kappaB in B Cells, organism-specific biosystem; Acute myeloid leukemia, organism-specific biosystem; Acute myeloid leukemia, conserved biosystem; Adaptive Immune System, organism-specific biosystem; Adipocytokine signaling pathway, organism-specific biosystem; Adipocytokine signaling pathway, conserved biosystem;
Function	ATP binding; IkappaB kinase activity; nucleotide binding; protein binding; protein kinase activity; protein serine/threonine kinase activity;

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