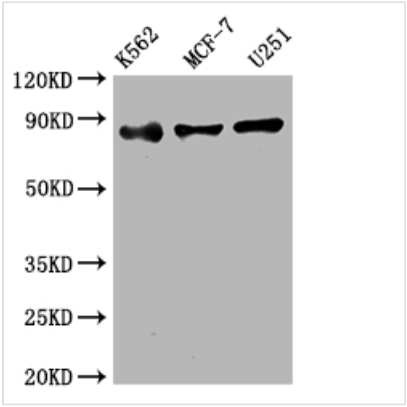
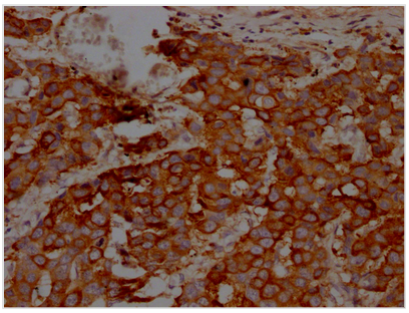
IKBKB Recombinant Monoclonal Antibody

Product Code	CSB-RA256500A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O14920
Immunogen	A synthesized peptide derived from human IKK beta
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IF; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IF:1:20-1:200
Relevance	Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. In turn, free NF-kappa-B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis. In addition to the NF-kappa-B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/IKBKG, NF-kappa-B subunits RELA and NFKB1, as well as IKK-related kinases TBK1 and IKBKE. IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs. Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor. Also phosphorylates other substrates including NCOA3, BCL10 and IRS1. Within the nucleus, acts as an adapter protein for NFKBIA degradation in UV-induced NF-kappa-B activation.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cardiovascular; Immunology; Signal transduction
Gene Names	IKBKB
Clone No.	3E1

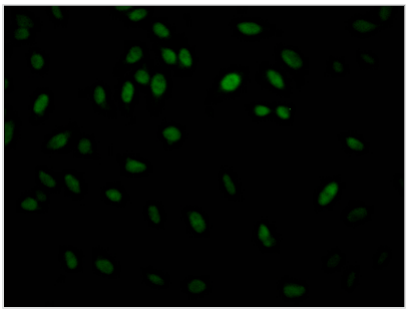
Image



Western Blot
Positive WB detected in: K562 whole cell lysate, MCF-7 whole cell lysate, U251 whole cell lysate
All lanes: IKK beta antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 87 kDa
Observed band size: 87 kDa



IHC image of CSB-RA256500A0HU diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunofluorescence staining of Hela Cells with CSB-RA256500A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

CUSABIO generated IKBKB antibody-producing hybridomas by fusing myeloma cells to B cells extracted from the animal immunized with a synthetic peptide derived from human IKBKB. The variable light and variable heavy domains of IKBKB antibody-producing hybridomas were sequenced, and the gene was inserted into a vector. Subsequently, the IKBKB monoclonal antibody gene-containing vector was transfected into cells for cultivation, and the IKBKB recombinant monoclonal antibody was purified using affinity chromatography from the cell culture supernatant. The purified antibody was specifically tested for human IKBKB protein detection in ELISA, WB, IHC, and IF applications.

The IKBKB protein, also known as IKKβ, is a serine/threonine protein kinase that plays a critical role in the regulation of the NFκB signaling pathway. It is involved in the regulation of various cellular processes, including immune response, inflammation, cell growth, and differentiation. Specifically, IKBKB is responsible for the phosphorylation and subsequent degradation of the inhibitor protein IκB, leading to the release and nuclear translocation of NFκB. Once in

the nucleus, NFκB activates the transcription of genes involved in inflammatory and immune responses, cell survival, and proliferation, among other functions.