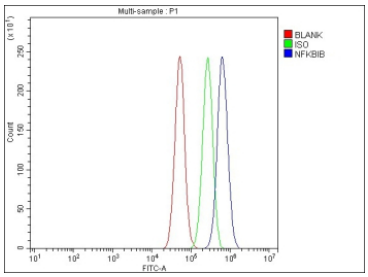
NFKBIB Antibody / IkB Beta (FY13204)

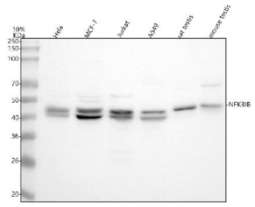
Catalog No.	Formulation	Size
FY13204	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q15653
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This NFKBIB antibody is available for research use only.



Flow Cytometry analysis of PC-3 cells using anti-NFKBIB antibody. Overlay histogram showing PC-3 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NFKBIB antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of IkB Beta/NFKBIB using anti-NFKBIB antibody. Lane 1: human Hela whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NFKBIB antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot detection of IkB beta/NFKBIB shows a 40-45 kDa doublet across multiple lysates. The spacing is consistent with phosphorylated and unmodified forms of NFKBIB.

Description

NFKBIB antibody detects Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor beta, commonly known as IkB beta, a cytoplasmic protein that regulates NF-kappaB signaling by sequestering transcription factors in an inactive state. The UniProt recommended name is NF-kappaB inhibitor beta (NFKBIB). This regulatory protein acts as part of the I-kappaB family, which maintains NF-kappaB dimers in the cytoplasm under resting conditions, preventing their nuclear translocation and transcriptional activation of inflammatory genes.

Functionally, NFKBIB antibody identifies a 359-amino-acid protein containing six ankyrin repeats that mediate high-affinity binding to NF-kappaB subunits such as RELA (p65) and NFKB1 (p50). Upon cellular stimulation by cytokines, stress, or microbial components, NFKBIB undergoes phosphorylation by IKK kinases, followed by ubiquitination and proteasomal degradation. This releases NF-kappaB dimers, allowing them to enter the nucleus and activate transcription of immune, survival, and stress-response genes. The subsequent resynthesis of IkB beta provides negative feedback to terminate NF-kappaB signaling, restoring homeostasis.

The NFKBIB gene is located on chromosome 19q13.2 and is expressed broadly in immune, epithelial, and neuronal tissues. Its expression is dynamically regulated by inflammatory stimuli, making it a critical component of feedback loops that control cytokine production and immune tolerance.

Pathologically, dysregulation of NFKBIB contributes to chronic inflammation, autoimmune disorders, and cancer. Mutations or reduced degradation can suppress immune activation, while excessive turnover enhances NF-kappaB signaling and proinflammatory gene expression. Research using NFKBIB antibody supports studies in transcriptional regulation, inflammatory signaling, and tumor biology.

NFKBIB antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect I-kappaB family proteins and NF-kappaB signaling regulators. NSJ Bioreagents provides NFKBIB antibody reagents optimized for use in immune signaling, inflammation, and transcription factor research.

Structurally, NF-kappaB inhibitor beta contains a signal response domain near the N-terminus for IKK-mediated phosphorylation and a C-terminal ankyrin repeat domain that anchors NF-kappaB subunits. This antibody enables the study of IkB beta's role in feedback regulation of NF-kappaB activity and immune homeostasis.

Application Notes

Optimal dilution of the NFKBIB antibody should be determined by the researcher.

Immunogen

E.coli-derived human IkB Beta/NFKBIB recombinant protein (Position: T96-V356) was used as the immunogen for the NFKBIB antibody.

Storage

After reconstitution, the NFKBIB antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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