

## NFKB1 Antibody

Purified Mouse Monoclonal Antibody (Mab) Catalog # AM2254a

### Specification

# NFKB1 Antibody - Product Information

Application Primary Accession Reactivity Host Clonality Isotype Calculated MW IHC-P, FC, WB,E <u>P19838</u> Human Mouse Monoclonal IgG1,κ 105356

## NFKB1 Antibody - Additional Information

Gene ID 4790

#### **Other Names**

Nuclear factor NF-kappa-B p105 subunit, DNA-binding factor KBF1, EBP-1, Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1, Nuclear factor NF-kappa-B p50 subunit, NFKB1

#### Target/Specificity

This antibody is generated from a mouse immunized with a recombinant protein from human NFKB1.

Dilution IHC-P~~1:25 FC~~1:25 WB~~1:1000 E~~Use at an assay dependent concentration.

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

NFKB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **NFKB1 Antibody - Protein Information**

Name NFKB1

Function NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the



endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain- containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, Ikappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling; active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105.

Cellular Location [Nuclear factor NF-kappa-B p105 subunit]: Cytoplasm

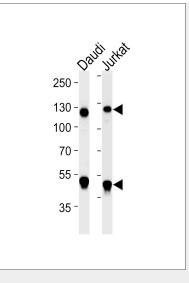
# NFKB1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

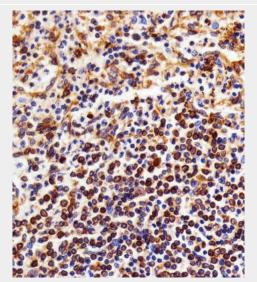
- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

NFKB1 Antibody - Images



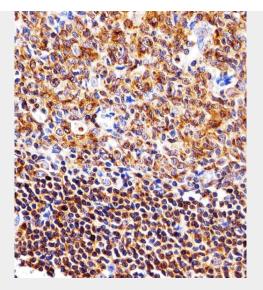


Western blot analysis of lysates from Daudi, Jurkat cell line (from left to right), using NFKB1 Antibody(Cat. #AM2254a). AM2254a was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35µg per lane.

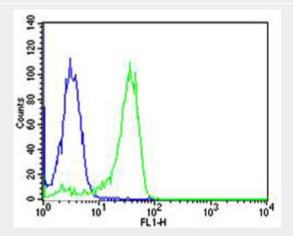


Immunohistochemical analysis of paraffin-embedded H. spleen section using NFKB1(Cat#AM2254a). AM2254a was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.





Immunohistochemical analysis of paraffin-embedded H. tonsil section using NFKB1(Cat#AM2254a). AM2254a was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Flow cytometric analysis of Hela cells using NFKB1(green, Cat#AM2254a) compared to an isotype control of mouse IgG1(blue). AM2254a was diluted at 1:25 dilution. An Alexa Fluor® 488 goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody.

## NFKB1 Antibody - Background

NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus.



NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling; active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105.

## **NFKB1 Antibody - References**

Kieran M.,et al.Cell 62:1007-1018(1990). Bours V.,et al.Nature 348:76-80(1990). Meyer R.,et al.Proc. Natl. Acad. Sci. U.S.A. 88:966-970(1991). Heron E.,et al.Genomics 30:493-505(1995). Chang H.-M.,et al.Submitted (DEC-1999) to the EMBL/GenBank/DDBJ databases.