

**NF- $\kappa$ B p65 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1331a****Specification**

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**NF- $\kappa$ B p65 Antibody - Product Information**

Application	<b>WB, FC, IHC, IF</b>
Primary Accession	<a href="#">Q04206</a>
Reactivity	<b>Human, Mouse</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>65kDa KDa</b>

**Description**

Transcription factors of the nuclear factor  $\kappa$  B (NF- $\kappa$ B)/Rel family is a ubiquitously expressed transcription factor that regulates many cytokine and Ig genes. It is involved in immune, inflammatory, viral, and acute phase responses. There are five family members in mammals: RelA (p65), c-Rel, RelB, NF- $\kappa$ B1 (p105/p50) and NF- $\kappa$ B2 (p100/p52). The most studied NF- $\kappa$ B complex consists of the p50 and p65 subunits, both containing a 300 amino acid region with homology to the Rel proto-oncogene product. The p50 subunit binds DNA, whereas the p65 subunit is responsible for the interaction of NF- $\kappa$ B with its inhibitor, I $\kappa$ B. In most cell types, the p50/p65 heterodimer is located within the cytoplasm complexed to I $\kappa$ B. This complex prevents nuclear translocation and activity of NF- $\kappa$ B. In response to stimuli such as cytokines, LPS, and viral infections, I $\kappa$ B is phosphorylated at critical residues. This phosphorylation induces dissociation of the I $\kappa$ B/NF- $\kappa$ B complex, allowing the free heterodimeric NF- $\kappa$ B to form a heterotetramer that translocates to the nucleus. In the nucleus, it binds to the  $\kappa$ B site within promoters and enhancers and functions as a transcriptional activator.

**Immunogen**

Purified recombinant fragment of human NF- $\kappa$ B p65 expressed in E. Coli.

**Formulation**

Ascitic fluid containing 0.03% sodium azide.

**NF- $\kappa$ B p65 Antibody - Additional Information**

**Gene ID** 5970

**Other Names**

Transcription factor p65, Nuclear factor NF-kappa-B p65 subunit, Nuclear factor of kappa light polypeptide gene enhancer in B-cells 3, RELA, NFKB3

**Dilution**

WB~~1/500 - 1/2000

FC~~1:200~~400

IHC~~1:200~~1000

IF~~1:200~1000.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

### Precautions

NF-κB p65 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## NF-κB p65 Antibody - Protein Information

**Name** RELA

**Synonyms** NFKB3

### 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. The heterodimeric RELA-NFKB1 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. The NF-kappa-B heterodimeric RELA-NFKB1 and RELA-REL complexes, for instance, function as transcriptional activators. 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. The inhibitory effect of I- kappa-B on NF-kappa-B through retention in the cytoplasm is exerted primarily through the interaction with RELA. RELA shows a weak DNA- binding site which could contribute directly to DNA binding in the NF- kappa-B complex. Beside its activity as a direct transcriptional activator, it is also able to modulate promoters accessibility to transcription factors and thereby indirectly regulate gene expression. Associates with chromatin at the NF-kappa-B promoter region via association with DDX1. Essential for cytokine gene expression in T- cells (PubMed:<a href="http://www.uniprot.org/citations/15790681" target="\_blank">15790681</a>). The NF-kappa-B homodimeric RELA-RELA complex appears to be involved in invasin-mediated activation of IL-8 expression. Key transcription factor regulating the IFN response during SARS-CoV-2 infection (PubMed:<a href="http://www.uniprot.org/citations/33440148" target="\_blank">33440148</a>).

### Cellular Location

Nucleus. Cytoplasm. Note=Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B) (PubMed:1493333). Colocalized with DDX1 in the nucleus upon TNF-alpha induction (PubMed:19058135). Colocalizes with GFI1 in the nucleus after LPS stimulation (PubMed:20547752). Translocation to the nucleus is impaired in L.monocytogenes infection (PubMed:20855622)

## NF-κB p65 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### NF- $\kappa$ B p65 Antibody - Images

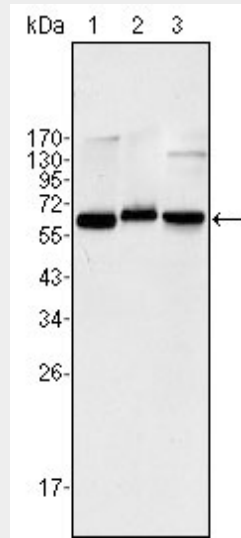


Figure 1: Western blot analysis using NF- $\kappa$ B p65 mouse mAb against Jurkat (1), K562 (2) and NIH/3T3 (3) cell lysate.

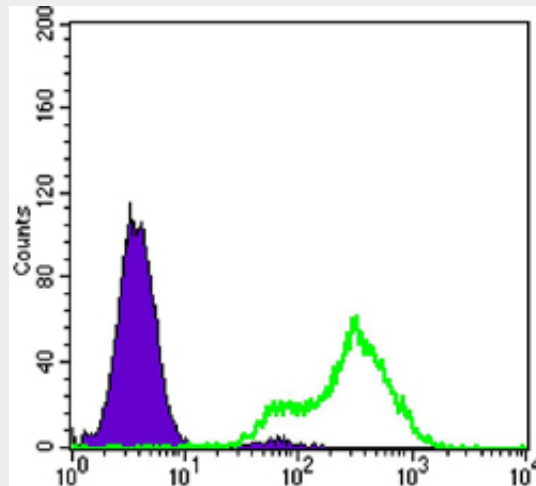


Figure 3: Flow cytometric analysis of LOVO cells using FABP2 mouse mAb (green) and negative control (purple).

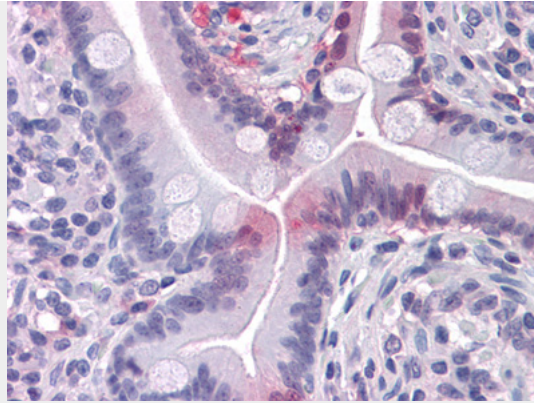


Figure 2: Immunohistochemical analysis of paraffin-embedded human Small Intestine tissues using FABP2 mouse mAb

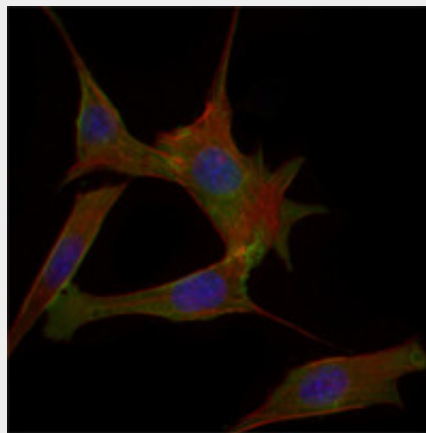


Figure 2: Immunofluorescence analysis of 3T3-L1 cells using FABP2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

#### **NF- $\kappa$ B p65 Antibody - References**

1. Nature. 1997 Aug 7;388(6642):548-54.
2. Cell. 1998 Dec 11;95(6):749-58.
3. J Biol Chem. 2000 Jun 16;275(24):18180-7.