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NF-κB p65 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1331a

Product Information

Application	WB, E
Primary Accession	Q04206
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	6H7
Isotype	IgG1
Calculated MW	60219
Description	Transcription factors of the nuclear factor κ B (NF-κB)/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-κB1 (p105/p50) and NF-κB2 (p100/p52). The most studied NF-κB 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 theinteraction of NF-κB with its inhibitor, IκB. In most cell types, the p50/p65 heterodimer is located within the cytoplasm complexed to IκB. This complex prevents nuclear translocation and activity of NF-κB. In response to stimuli such as cytokines, LPS, and viral infections, IκB is phosphorylated at critical residues. This phosphorylation induces dissociation of the IκB/NF-κB complex, allowing the free heterodimeric NF-κB to form a heterotetramer that translocates to the nucleus. In the nucleus, it binds to the κB site within promoters and enhancers and functions as a transcriptional activator.
Immunogen	Purified recombinant fragment of human NF-κB p65 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

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 E~~N/A
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.

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. Besides 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:15790681). 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:33440148).
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)

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.

Images

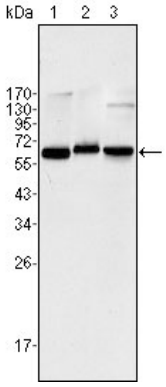

Figure 1: Western blot analysis using NF-κB p65 mouse mAb against Jurkat (1), K562 (2) and NIH/3T3 (3) cell lysate.

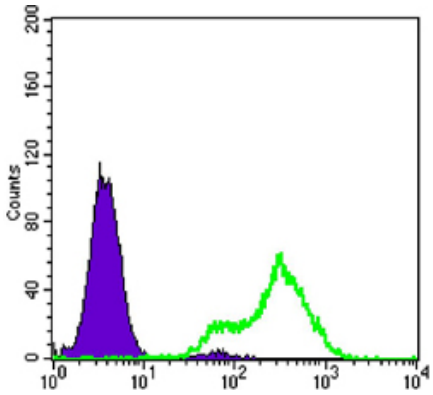

Figure 3: Flow cytometric analysis of LOVO cells using FABP2 mouse mAb (green) and negative control (purple).

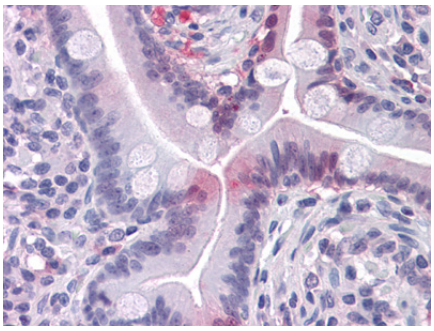

Figure 2: Immunohistochemical analysis of paraffin-embedded human Small Intestine tissues using FABP2 mouse mAb

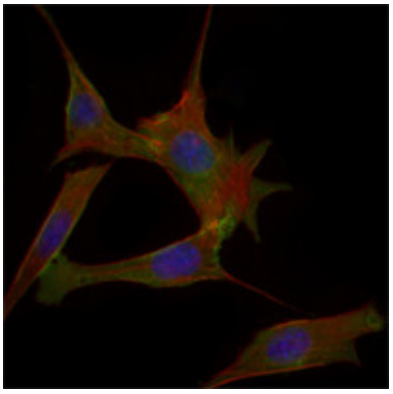

Figure 2: Immunofluorescence analysis of 3T3-L1 cells using FABP2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.