

phospho-NFKB1 (Ser927) Rabbit pAb

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Catalog # AP93935

Product Information

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| Application | IHC-P, IHC-F, IF |
| Primary Accession | Q63369 |
| Reactivity | Rat |
| Predicted | Hamster |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 105704 |
| Physical State | Liquid |
| Immunogen | KLH conjugated Synthesised phosphopeptide derived from rat NFKB1 around the phosphorylation site of Ser927 |
| Epitope Specificity | ND(p-S)VC |
| Isotype | IgG |
| Purity | affinity purified by Protein A |
| Buffer | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| SUBCELLULAR LOCATION | Nucleus. Cytoplasm. Note=Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B). |
| SIMILARITY | Contains 7 ANK repeats. Contains 1 death domain. Contains 1 RHD (Rel-like) domain. |
| SUBUNIT | Component of the NF-kappa-B p65-p50 complex. Component of the NF-kappa-B p65-p50 complex. Homodimer; component of the NF-kappa-B p50-p50 complex. Component of the NF-kappa-B p105-p50 complex. Component of the NF-kappa-B p50-c-Rel complex. Component of a complex consisting of the NF-kappa-B p50-p50 homodimer and BCL3. Also interacts with MAP3K8. NF-kappa-B p50 subunit interacts with NCOA3 coactivator, which may coactivate NF-kappa-B dependent expression via its histone acetyltransferase activity. Interacts with DSIPI; this interaction prevents nuclear translocation and DNA-binding. Interacts with SPAG9 and UNC5CL. NFKB1/p105 interacts with CFLAR; the interaction inhibits p105 processing into p50. NFKB1/p105 forms a ternary complex with MAP3K8 and TNIP2. Interacts with GSK3B; the interaction prevents processing of p105 to p50. NFKB1/p50 interacts with NFKBIE. NFKB1/p50 interacts with NFKBIZ. Nuclear factor NF-kappa-B p50 subunit interacts with NFKBID. Directly interacts with MEN1. Interacts with HIF1AN. |
| Post-translational modifications | While translation occurs, the particular unfolded structure after the GRR repeat promotes the generation of p50 making it an acceptable substrate for the proteasome. This process is known as cotranslational processing. The processed form is active and the unprocessed form acts as an inhibitor (I kappa B-like), being able to form cytosolic complexes with NF-kappa B, trapping it in the cytoplasm. Complete folding of the region downstream of the GRR repeat precludes processing. Phosphorylation at 'Ser-903' and 'Ser-907' primes p105 for proteolytic processing in response to TNF-alpha stimulation. Phosphorylation at 'Ser-927' and 'Ser-932' are required for BTRC/BTRCP-mediated proteolysis. Polyubiquitination seems to allow p105 |

processing. S-nitrosylation of Cys-61 affects DNA binding. The covalent modification of cysteine by 15-deoxy-Delta12,14-prostaglandin-J2 is autocatalytic and reversible. It may occur as an alternative to other cysteine modifications, such as S-nitrosylation and S-palmitoylation.

Important Note

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Background Descriptions

This gene encodes a 105 kD protein which can undergo cotranslational processing by the 26S proteasome to produce a 50 kD protein. The 105 kD protein is a Rel protein-specific transcription inhibitor and the 50 kD protein is a DNA binding subunit of the NF-kappa-B (NFKB) protein complex. NFKB is a transcription regulator that is activated by various intra- and extra-cellular stimuli such as cytokines, oxidant-free radicals, ultraviolet irradiation, and bacterial or viral products. Activated NFKB translocates into the nucleus and stimulates the expression of genes involved in a wide variety of biological functions. Inappropriate activation of NFKB has been associated with a number of inflammatory diseases while persistent inhibition of NFKB leads to inappropriate immune cell development or delayed cell growth. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2009].

Additional Information

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| Gene ID | 81736 |
| 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 |
| Dilution | IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 |
| Storage | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

Protein Information

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| 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, 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.

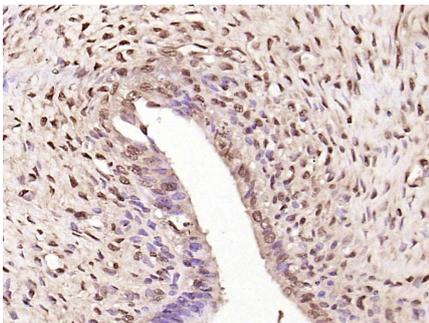
Cellular Location

[Nuclear factor NF-kappa-B p105 subunit]: Cytoplasm
{ECO:0000250|UniProtKB:P19838}

Background

This gene encodes a 105 kD protein which can undergo cotranslational processing by the 26S proteasome to produce a 50 kD protein. The 105 kD protein is a Rel protein-specific transcription inhibitor and the 50 kD protein is a DNA binding subunit of the NF-kappa-B (NFKB) protein complex. NFKB is a transcription regulator that is activated by various intra- and extra-cellular stimuli such as cytokines, oxidant-free radicals, ultraviolet irradiation, and bacterial or viral products. Activated NFKB translocates into the nucleus and stimulates the expression of genes involved in a wide variety of biological functions. Inappropriate activation of NFKB has been associated with a number of inflammatory diseases while persistent inhibition of NFKB leads to inappropriate immune cell development or delayed cell growth. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2009].

Images



Paraformaldehyde-fixed, paraffin embedded (rat uterus); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Phospho-NFKB1 (Ser927)) Polyclonal Antibody, Unconjugated (AP93935) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.