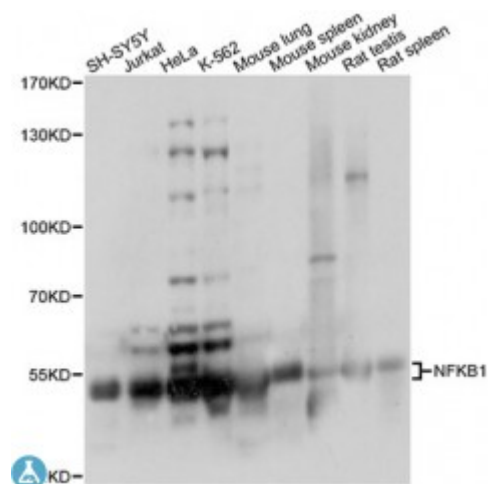


Anti-NFKB1 Antibody



Description

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. Alternative splicing results in multiple transcript variants encoding different isoforms, at least one of which is proteolytically processed.

Model	STJ116954
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	WB
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 300-433 of human NFKB1 (NP_003989.2).
Gene ID	4790
Gene Symbol	NFKB1
Dilution range	WB 1:500 - 1:2000
Purification	Affinity purification

Note	For Research Use Only (RUO).
Protein Name	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
Molecular Weight	105.356 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:7794 OMIM:164011 Reactome:R-HSA-1169091
Alternative 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
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
Cellular Localization	Nucleus, Cytoplasm,
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,

St John's Laboratory Ltd

F +44 (0)207 681 2580

T +44 (0)208 223 3081

W <http://www.stjohnslabs.com/>

E info@stjohnslabs.com