

Summary

Production Name	NFκB-p100 Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	IHC, WB, ELISA
Reactivity	Human, Mouse, Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	NFKB2 NFKB2; LYT10; Nuclear factor NF-kappa-B p100 subunit; DNA-binding factor KBF2;
Alternative Names	H2TF1; Lymphocyte translocation chromosome 10 protein; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 2; Oncogene Lyt-10; Lyt10
Gene ID	4791.0
SwissProt ID	Q00653. The antiserum was produced against synthesized peptide derived from human NF-kappaB p100/p52. AA range:833-882

Application

Dilution Ratio	WB 1:500 - 1:2000. IHC 1:100 - 1:300. ELISA: 1:20000. Not yet tested in other applications.
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Molecular Weight

Background

nuclear factor kappa B subunit 2(NFKB2) Homo sapiens This gene encodes a subunit of the transcription factor complex nuclear factor-kappa-B (NFκB). The NFκB complex is expressed in numerous cell types and functions as a central activator of genes involved in inflammation and immune function. The protein encoded by this gene can function as both a transcriptional activator or repressor depending on its dimerization partner. The p100 full-length protein is co-translationally processed into a p52 active form. Chromosomal rearrangements and translocations of this locus have been observed in B cell lymphomas, some of which may result in the formation of fusion proteins. There is a pseudogene for this gene on chromosome 18. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2013],disease:A chromosomal aberration involving NFKB2 is found in a case of B-cell non Hodgkin lymphoma (B-NHL). Translocation t(10;14)(q24;q32) with IGHA1. The resulting oncogene is also called Lym-10C alpha variant.,disease:A chromosomal aberration involving NFKB2 is found in a cutaneous T-cell leukemia (C-TCL) cell line. This rearrangement produces the p80HT gene which encodes for a truncated 80 kDa protein (p80HT),disease:In B-cell leukemia (B-CLL) cell line, LB40 and EB308, can be found after heterogeneous chromosomal aberrations, such as internal deletions.,domain:The C-terminus of p100 might be involved in cytoplasmic retention, inhibition of DNA-binding by p52 homodimers, and/or transcription activation.,domain:The glycine-rich region (GRR) appears to be a critical element in the generation of p52.,function:NF-kappa-B is a pleiotropic transcription factor which is present in almost all cell types and is involved in 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 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. In a non-canonical activation pathway, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes. The NF-kappa-B heterodimeric RelB-p52 complex is a transcriptional activator. The NF-kappa-B p52-p52 homodimer is a transcriptional repressor. NFKB2 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p100 and generation of p52 by a cotranslational processing. The proteasome-mediated process ensures the production of both p52 and p100 and preserves their independent function. p52 binds to the kappa-B consensus sequence 5'-GGRNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. p52 and p100 are respectively the minor and

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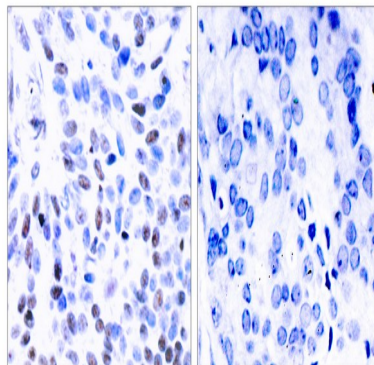


major form; the processing of p100 being relatively poor. Isoform p49 is a subunit of the NF-kappa-B protein complex, which stimulates the HIV enhancer in synergy with p65.,PTM:Constitutive processing is tightly suppressed by its C-terminal processing inhibitory domain, named PID, which contains the death domain.,PTM:Subsequent to MAP3K14-dependent serine phosphorylation, p100 polyubiquitination occurs then triggering its proteasome-dependent processing.,PTM:While translation occurs, the particular unfolded structure after the GRR repeat promotes the generation of p52 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.,similarity:Contains 1 death domain.,similarity:Contains 1 RHD (Rel-like) domain.,similarity:Contains 7 ANK repeats.,subcellular location:Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B),,subunit:Component of the NF-kappa-B RelB-p52 complex. Homodimer; component of the NF-kappa-B p52-p52 complex. Component of the NF-kappa-B p65-p52 complex. Component of the NF-kappa-B p52-c-Rel complex. NFKB2/p52 interacts with NFKBIE. Component of a complex consisting of the NF-kappa-B p50-p50 homodimer and BCL3.,

Research Area

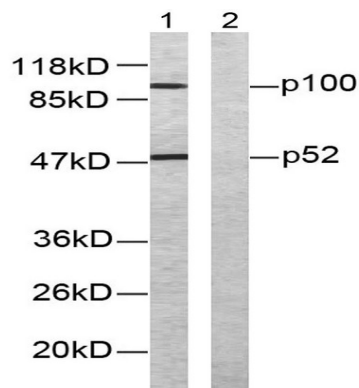
B Cell Receptor; Stem cell pathway; MAPK_ERK_Growth;MAPK_G_Protein; PI3K/Akt; NF_kappaB; Protein_Acetylation

Image Data

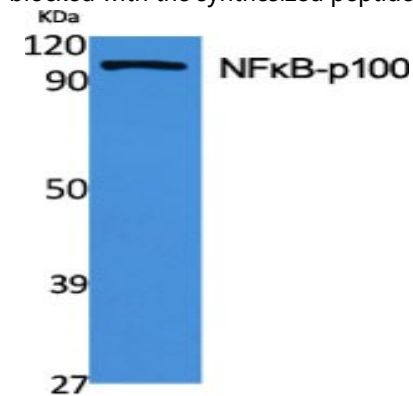


Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue, using NF-kappaB p100/p52 Antibody.
The picture on the right is blocked with the synthesized peptide.

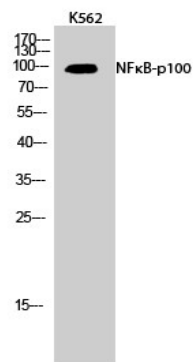
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Western blot analysis of lysates from ovary cancer cells, using NF-kappaB p100/p52 Antibody. The lane on the right is blocked with the synthesized peptide.

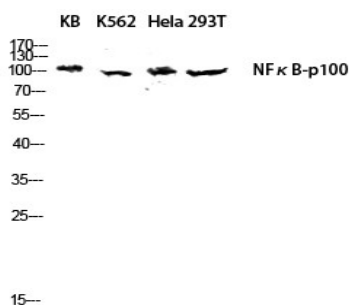


Western Blot analysis of various cells using NFκB-p100 Polyclonal Antibody diluted at 1: 1000



Western Blot analysis of K562 cells using NFκB-p100 Polyclonal Antibody diluted at 1: 1000

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Western blot analysis of KB K562 HeLa 293T lysis using NFκB-p100 antibody. Antibody was diluted at 1:1000

Note

For research use only.