abcam

Product datasheet

Anti-NFkB p105 / p50 antibody ab7549

10 References

Overview

Product name	Anti-NFkB p105 / p50 antibody
Description	Rabbit polyclonal to NFkB p105 / p50
Host species	Rabbit
Specificity	Recognition is at the N-terminus. This antibody will "supershift " NFkB complexes containing the human p50 subunit. Control peptide **ab7550** will compete only with the specific reaction of antiserum with Human NFkB p50 (NFKB1).
Tested applications	**Suitable for:** ELISA, GSA, WB, IHC-P
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide corresponding to Human NFkB p105/ p50 aa 1-100 (N terminal) conjugated to keyhole limpet haemocyanin. Synthetic peptide: AEDDPYLGRFEQMF conjugated to KLH, corresponding to N terminal amino acids 2-15 of Human NFkB p50. Database link: **P19838** Run BLAST with Run BLAST with
General notes	NFkB is formed as a homo- or hetero-dimer. Subunits include p50 (NFkB1), p65 (RelA), c-Rel, RelB and p52 (NFkB2). The classic NFkB form exists as a p50-p65 heterodimer and predominates in many cell types. Many of the possible combinatorial forms of homo- and heterodimers have been identified and growing evidence indicates that different forms of NFkB have different functions in cells. Nuclear translocation of NFkB is confirmed by the use of electrophorectic mobility shift assays or by immunoblotting with nuclear extracts. The subunit composition of NFkB is confirmed by the use of antibodies that "supershift" the DNA/protein complex. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.01% Sodium azide
Purity	Whole antiserum
Purification notes	This product was prepared from monospecific antiserum by delipidation and defibrination.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab7549 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration.
GSA		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration.
EMSA		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. PubMed: 17220207

Target

Function NF-kappa-B is a pleiotropic transcription factor which is present in almost all cell types and is involved in many biological processed 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.
Sequence similarities	Contains 7 ANK repeats. Contains 1 death domain. Contains 1 RHD (Rel-like) domain.
Domain	The C-terminus of p105 might be involved in cytoplasmic retention, inhibition of DNA-binding, and transcription activation. Glycine-rich region (GRR) appears to be a critical element in the generation of p50.
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.
Cellular localization	Nucleus. Cytoplasm. Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor.