ARG54746
anti-NFkB p105 / p50 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes NFkB p105 / p50
Tested Reactivity	Hu
Tested Application	FACS, IHC-P, WB
Host	Mouse
Clonality	Monoclonal
Clone	1298CT792.105.117.133
Isotype	IgG1 Kappa
Target Name	NFkB p105 / p50
Species	Human
Immunogen	Synthetic peptide corresponding a region of Human NFKB1.
Conjugation	Un-conjugated
Alternate Names	NF-kB1; Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1; Nuclear factor NF-kappa-B p105 subunit; NFkappaB; p105; EBP-1; NF-kappa-B; NF-kappaB; NFKB-p50; KBF1; DNA-binding factor KBF1; p50; NFKB-p105

Application Instructions

Application table

Application	Dilution
FACS	1:25
IHC-P	Assay-dependent
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: Daudi

Properties

Form	Liquid
Purification	Purification with Protein G.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

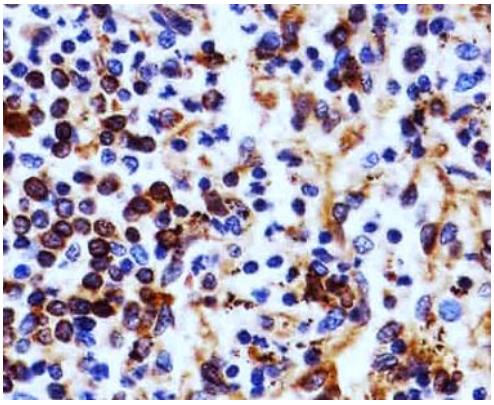
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 4790 Human Swiss-port # P19838 Human
Gene Symbol	NFKB1
Gene Full Name	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
Background	NFKB1 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]
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. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30251 NFkB nuclear translocation Antibody Panel Related products: NFKB p105 antibodies; NFKB p105 Duos / Panels; Related news: Molecular mechanisms of labor initiation found
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Cell Death antibody; Gene Regulation antibody; Immune System antibody; Signaling Transduction antibody; NFkB nuclear translocation Study antibody
Calculated Mw	105 kDa
PTM	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-

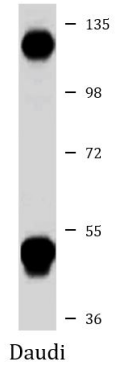
	alpha stimulation. Phosphorylation at 'Ser-927' and 'Ser-932' are required for BTRC/BTRCP-mediated proteolysis. Polyubiquitination seems to allow p105 processing. S-nitrosylation of Cys-61 affects DNA binding. The covalent modification of cysteine by 15-deoxy-Delta12,14-prostaglandin-J2 is autocatalytic and reversible. It may occur as an alternative to other cysteine modifications, such as S-nitrosylation and S-palmitoylation.
Cellular Localization	Nucleus. Cytoplasm. Note=Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B)

Images



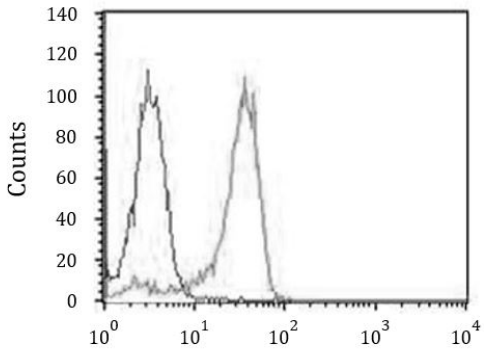
ARG54746 anti-NFkB p105 / p50 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human spleen section stained with ARG54746 anti-NFkB p105 / p50 antibody at 1:25 dilution.



ARG54746 anti-NFkB p105 / p50 antibody WB image

Western blot: 35 µg of Daudi cell lysate stained with ARG54746 anti-NFkB p105 / p50 antibody at 1:1000 dilution.



ARG54746 anti-NFkB p105 / p50 antibody FACS image

Flow Cytometry: HeLa cells stained with ARG54746 anti-NFkB p105 / p50 antibody (right histogram) at 1:25 dilution or isotype control antibody (left histogram), followed by incubation with Alexa Fluor® 488 labelled secondary antibody.