abcam

ab204263

Alexa Fluor® 488 Anti-NF-kB p65 antibody [EP2161Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP2161Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in HeLa cells fixed with 4% formaldehyde (10 min).

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information RELA

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. The heterodimeric RELA-NFKB1 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. The NF-kappa-B heterodimeric RELA-NFKB1 and RELA-REL complexes, for instance, function as transcriptional activators. 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. The inhibitory effect of I-kappa-B on NF-kappa-B through retention in the cytoplasm is exerted primarily through the interaction with RELA. RELA shows a weak DNA-binding site which could contribute directly to DNA binding in the NF-kappa-B complex. Besides its activity as a direct transcriptional activator, it is also able to modulate promoters accessibility to transcription factors and thereby indirectly regulate gene expression. Associates with chromatin at the NF-kappa-B promoter region via association with DDX1. Essential for cytokine gene expression in T-cells (PubMed:15790681). The NF-kappa-B homodimeric RELA-RELA complex appears to be involved in invasin-mediated activation of IL-8 expression. Key transcription factor regulating the IFN response during SARS-CoV-2 infection (PubMed:33440148).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NF-kB p65 also known as RelA is a significant component of the NF-kB protein complex. This complex usually involves a molecular weight for p65 of approximately 65 kDa. NF-kB p65 is mechanistically a transcription factor that regulates genes involved in inflammation cell survival and immune response. Expression of p65 is widely seen in various cell types including immune cells and epithelial cells suggesting its role in numerous physiological processes.
Biological function summary	NF-kB p65 acts as part of the larger NF-kB complex usually forming a heterodimer with other family members like p50. This complex translocates to the nucleus upon activation where it binds specific DNA sequences to regulate gene expression. The p65 subunit is essential for transactivating target genes involved in immune and inflammatory responses. Its regulation is important for proper cellular functioning especially in the maintenance of immune homeostasis and inflammatory response.
Pathways	NF-kB p65 participates in critical pathways like the NF-kB signaling and Toll-like receptor pathways. These pathways are fundamental for initiating immune responses and contribute to the regulation of apoptosis and cellular stress responses. In the context of these pathways the IKK complex plays a pivotal role in NF-kB activation leading to the phosphorylation and subsequent degradation of inhibitors that retain NF-kB p65 in the cytoplasm therefore allowing its movement to the nucleus.
Associated diseases and disorders	NF-kB p65 is implicated in conditions such as cancer and autoimmune diseases. Its dysregulation can lead to persistent activation of inflammatory pathways contributing to tumorigenesis and chronic inflammation. In the context of these diseases proteins such as the p50 subunit and the IKK complex are often involved reflecting the importance of tight regulation of NF-kB signaling in preventing pathological conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

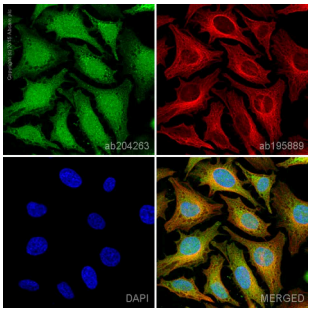
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1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-NF-kB p65 antibody [EP2161Y] (ab204263)

NF-kB p65 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NF-kB p65 antibody

ab204263 staining NF-kB p65 in HeLa cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab204263 at a 1/100 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at a 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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