# Overview

**Product name**
Anti-NF-kB p65 (phospho S529) antibody [EPR2379]

**Description**
Rabbit monoclonal [EPR2379] to NF-kB p65 (phospho S529)

**Host species**
Rabbit

**Specificity**
This antibody only detects NF-kB p65 when phosphorylated at serine 529.

**Tested applications**
**Suitable for:** WB, IP, Flow Cyt  
**Unsuitable for:** ICC or IHC-P

**Species reactivity**
Reacts with: Human

**Immunogen**
Synthetic peptide within Human NF-kB p65. The exact sequence is proprietary.

**Positive control**
Daudi cell lysate.

**General notes**
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

This product is a recombinant monoclonal antibody, which offers several advantages including:
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production

For more information see here.

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

## Properties

**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C.  
Avoid freeze / thaw cycle.

**Storage buffer**
pH: 7.20  
Preservative: 0.01% Sodium azide
Constituents: 9% PBS, 40% Glycerol, 0.05% BSA, 50% Tissue culture supernatant

Purity
Tissue culture supernatant

Clonality
Monoclonal

Clone number
EPR2379

Isotype
IgG

Applications

Our Abpromise guarantee covers the use of ab109458 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>WB</td>
<td>1/1000 - 1/10000. Predicted molecular weight: 60 kDa.</td>
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<tr>
<td>IP</td>
<td>1/10 - 1/100.</td>
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<tr>
<td>Flow Cyt</td>
<td>1/100 - 1/500. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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Target

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 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 p65-c-Rel complexes are transcriptional activators. The NF-kappa-B p65-p65 complex appears to be involved in invasin-mediated activation of IL-8 expression. The inhibitory effect of I-kappa-B upon NF-kappa-B the cytoplasm is exerted primarily through the interaction with p65. p65 shows a weak DNA-binding site which could contribute directly to DNA binding in the NF-kappa-B complex. Associates with chromatin at the NF-kappa-B promoter region via association with DDX1.

Sequence similarities
Contains 1 RHD (Rel-like) domain.

Domain
the 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors.

Post-translational
Ubiquitinated, leading to its proteasomal degradation. Degradation is required for termination of
NF-kappa-B response.
Monomethylated at Lys-310 by SETD6. Monomethylation at Lys-310 is recognized by the ANK repeats of EHMT1 and promotes the formation of repressed chromatin at target genes, leading to down-regulation of NF-kappa-B transcription factor activity. Phosphorylation at Ser-311 disrupts the interaction with EHMT1 without preventing monomethylation at Lys-310 and relieves the repression of target genes.

Phosphorylation at Ser-311 disrupts the interaction with EHMT1 and promotes transcription factor activity (By similarity). Phosphorylation on Ser-536 stimulates acetylation on Lys-310 and interaction with CBP; the phosphorylated and acetylated forms show enhanced transcriptional activity.

Reversibly acetylated; the acetylation seems to be mediated by CBP, the deacetylation by HDAC3. Acetylation at Lys-122 enhances DNA binding and impairs association with NFKBIA. Acetylation at Lys-310 is required for full transcriptional activity in the absence of effects on DNA binding and NFKBIA association. Acetylation can also lower DNA-binding and results in nuclear export. Interaction with BRMS1 promotes deacetylation of 'Lys-310'.

Cellular localization
Nucleus. Cytoplasm. Nuclear, but also found in the cytoplasm in an inactive form complexed to an inhibitor (I-kappa-B). Colocalized with RELA in the nucleus upon TNF-alpha induction.

Images

1 2

Western blot - Anti-NF-kB p65 (phospho S529) antibody [EPR2379] (ab109458)

All lanes : Anti-NF-kB p65 (phospho S529) antibody [EPR2379] (ab109458) at 1/1000 dilution

Lane 1 : Daudi cell lysates untreated with Calyculin A and TNF-alpha.

Lane 2 : Daudi cell lysates treated with Calyculin A and TNF-alpha.

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP-labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 60 kDa

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