

NF-κB1 p105/p50 Antibody

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|-------------------------------------|----------------------------|-----------------------------------|-------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------|
| Applications: W, IP, ChIP | Reactivity: H Mk | Sensitivity: Endogenous | MW (kDa): 50 Active form. 120 Precursor. | Source/Isotype: Rabbit | UniProt ID: #P19838 | Entrez-Gene Id: 4790 |
|-------------------------------------|----------------------------|-----------------------------------|-------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------|

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

| Application | Dilution |
|---------------------|-----------------|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:50 |
| Chromatin IP | 1:50 |

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

NF-kappaB p105/p50 Antibody detects endogenous levels of the precursor protein p105 and its cleavage product p50.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids at the amino-terminus of human NF-kappaB p105.

Background

Transcription factors of the nuclear factor κB (NF-κB)/Rel family play a pivotal role in inflammatory and immune responses (1,2). There are five family members in mammals: RelA, c-Rel, RelB, NF-κB1 (p105/p50), and NF-κB2 (p100/p52). Both p105 and p100 are proteolytically processed by the proteasome to produce p50 and p52, respectively. Rel proteins bind p50 and p52 to form dimeric complexes that bind DNA and regulate transcription. In unstimulated cells, NF-κB is sequestered in the cytoplasm by IκB inhibitory proteins (3-5). NF-κB-activating agents can induce the phosphorylation of IκB proteins, targeting them for rapid degradation through the ubiquitin-proteasome pathway and releasing NF-κB to enter the nucleus where it regulates gene expression (6-8). NIK and IKKα (IKK1) regulate the phosphorylation and processing of NF-κB2 (p100) to produce p52, which translocates to the nucleus (9-11).

Following IKK-mediated phosphorylation of p105 NF-κB at multiple sites (Ser921, 923, 927, and 932) on its carboxy-terminus, SCF/β-TrCP mediated processing produces the 50 kDa active form p50 (12,13).

Background References

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6. Traenckner, E.B. et al. (1995) *EMBO J* 14, 2876-83.
7. Scherer, D.C. et al. (1995) *Proc Natl Acad Sci USA* 92, 11259-63.
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11. Xiao, G. et al. (2001) *Mol Cell* 7, 401-9.
12. Heissmeyer, V. et al. (2001) *Mol Cell Biol* 21, 1024-1035.
13. Orian, A. et al. (2000) *EMBO J* 19, 2580-2591.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **ChIP:** Chromatin IP

Cross-Reactivity Key

H: Human **Mk:** Monkey

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