

**NF- $\kappa$ B1 p105/p50 (D4P4D) Rabbit mAb**

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<b>Applications:</b> W, IP, IF-IC, FC-FP, ChIP, C&R	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 50 Active form. 120 Precursor	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P25799	<b>Entrez-Gene Id:</b> 18033
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**Product Usage Information**

For optimal ChIP results, use 10  $\mu$ l of antibody and 10  $\mu$ g of chromatin (approximately 4 x 10<sup>6</sup> cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

**Application**

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:200 - 1:400
Flow Cytometry (Fixed/Permeabilized)	1:50 - 1:200
Chromatin IP	1:50
CUT&RUN	1:50

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #83394.

**Specificity/Sensitivity**

NF- $\kappa$ B1 p105/p50 (D4P4D) Rabbit mAb recognizes endogenous levels of total NF- $\kappa$ B1 p105/p50 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ile415 of mouse NF- $\kappa$ B1 p105/p50 protein.

**Background**

Transcription factors of the nuclear factor  $\kappa$ B (NF- $\kappa$ B)/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- $\kappa$ B1 (p105/p50), and NF- $\kappa$ B2 (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- $\kappa$ B is sequestered in the cytoplasm by I $\kappa$ B inhibitory proteins (3-5). NF- $\kappa$ B-activating agents can induce the phosphorylation of I $\kappa$ B proteins, targeting them for rapid degradation through the ubiquitin-proteasome pathway and releasing NF- $\kappa$ B to enter the nucleus where it regulates gene expression (6-8). NIK and IKK $\alpha$  (IKK1) regulate the phosphorylation and processing of NF- $\kappa$ B2 (p100) to produce p52, which translocates to the nucleus (9-11).

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

**Background References**

- Baeuerle, P.A. and Henkel, T. (1994) *Annu Rev Immunol* 12, 141-79.
- Baeuerle, P.A. and Baltimore, D. (1996) *Cell* 87, 13-20.
- Haskill, S. et al. (1991) *Cell* 65, 1281-9.
- Thompson, J.E. et al. (1995) *Cell* 80, 573-82.
- Whiteside, S.T. et al. (1997) *EMBO J* 16, 1413-26.
- Traenckner, E.B. et al. (1995) *EMBO J* 14, 2876-83.
- Scherer, D.C. et al. (1995) *Proc Natl Acad Sci USA* 92, 11259-63.
- Chen, Z.J. et al. (1996) *Cell* 84, 853-62.
- Senftleben, U. et al. (2001) *Science* 293, 1495-9.
- Coope, H.J. et al. (2002) *EMBO J* 21, 5375-85.
- Xiao, G. et al. (2001) *Mol Cell* 7, 401-9.
- Heissmeyer, V. et al. (2001) *Mol Cell Biol* 21, 1024-35.
- Orian, A. et al. (2000) *EMBO J* 19, 2580-91.

**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 **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **C&R:** CUT&RUN

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat

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