

# p-NFκB p50 (A-8): sc-271908

## BACKGROUND

Proteins encoded by the v-Rel viral oncogene and its cellular homolog, c-Rel, are members of a family of transcription factors that include the two subunits of the transcription factor NFκB (p50 and p65) and the *Drosophila* maternal morphogen, Dorsal. These proteins share sequence homology over a region of 300 amino acids at their NH<sub>2</sub>-terminus, the region that contains their DNA binding and dimerization domains. The DNA binding activity of NFκB is activated and rapidly transported from the cytoplasm to the nucleus in cells exposed to mitogens or growth factors. cDNAs encoding precursors for two distinct proteins have been described. These proteins, designated p105 and p100, are highly related but map on different chromosomes. The p105 (p110) precursor contains p50 at its N-terminus and a C-terminal region that when expressed as a separate molecule, designated PDI, binds to p50 and regulates its activity. The NFκB transcription factor is a protein complex consisting of a DNA binding subunit and an associated protein. The DNA binding subunit, also referred to as Rel A, is functionally related to c-Rel p75 and Rel B p68. The p50 subunit is derived from the N-terminus of a precursor designated p105. A second protein designated p52 (previously referred to as p49) is derived from the p100 precursor and may act as an alternative to p50 in NFκB heterodimers. NFκB p50 serine 337 is phosphorylated in response to PKA. The phosphorylation of NFκB p50 serine 337 regulates the binding ability of NFκB p50 and has an impact on NFκB transcription.

## CHROMOSOMAL LOCATION

Genetic locus: NFKB1 (human) mapping to 4q24; Nfkb1 (mouse) mapping to 3 G3.

## SOURCE

p-NFκB p50 (A-8) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 337 phosphorylated NFκB p50 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271908 X, 200 µg/0.1 ml.

p-NFκB p50 (A-8) is available conjugated to agarose (sc-271908 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271908 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271908 PE), fluorescein (sc-271908 FITC), Alexa Fluor® 488 (sc-271908 AF488), Alexa Fluor® 546 (sc-271908 AF546), Alexa Fluor® 594 (sc-271908 AF594) or Alexa Fluor® 647 (sc-271908 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271908 AF680) or Alexa Fluor® 790 (sc-271908 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271908 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

p-NFκB p50 (A-8) is recommended for detection of Ser 337 phosphorylated NFκB p50 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-NFκB p50 (A-8) is also recommended for detection of Ser 337 phosphorylated NFκB p50 in additional species, including equine, canine, bovine, porcine and avian.

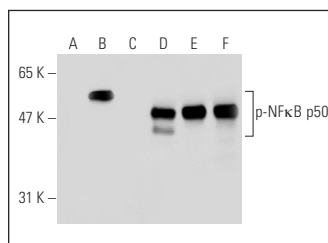
Suitable for use as control antibody for NFκB p50 siRNA (h): sc-29407, NFκB p50 siRNA (m): sc-29408, NFκB p50 siRNA (r): sc-156175, NFκB p50 shRNA Plasmid (h): sc-29407-SH, NFκB p50 shRNA Plasmid (m): sc-29408-SH, NFκB p50 shRNA Plasmid (r): sc-156175-SH, NFκB p50 shRNA (h) Lentiviral Particles: sc-29407-V, NFκB p50 shRNA (m) Lentiviral Particles: sc-29408-V and NFκB p50 shRNA (r) Lentiviral Particles: sc-156175-V.

p-NFκB p50 (A-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

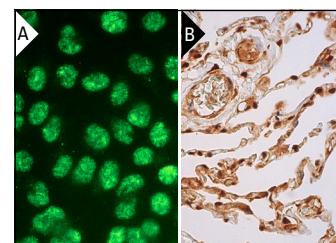
Molecular Weight of p-NFκB p50: 50 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa + Calyculin A cell lysate: sc-2271 or HeLa + TNFα cell lysate: sc-2228.

## DATA



Western blot analysis of NFκB p50 phosphorylation in untreated (A,D), TNFα and Calyculin A treated (B,E) and TNFα, Calyculin A and lambda protein phosphatase treated (C,F) HeLa whole cell lysates. Antibodies tested include p-NFκB p50 (A-8): sc-271908 (A,B,C) and NFκB p50 (E-10): sc-8414 (D,E,F).



p-NFκB p50 (A-8): sc-271908. Immunofluorescence staining of methanol-fixed, phosphorylated HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear and cytoplasmic staining of pneumocytes and macrophages (B).

## SELECT PRODUCT CITATIONS

1. Zhang, N., et al. 2014. Peroxisome proliferator activated receptor α inhibits hepatocarcinogenesis through mediating NFκB signaling pathway. *Oncotarget* 5: 8330-8340.
2. Peng, Y., et al. 2024. Cyclophilin A promotes porcine deltacoronavirus replication by regulating autophagy via the Ras/AKT/NFκB pathway. *Vet. Microbiol.* 297: 110190.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA