

p-NFATc3 (Ser 240): sc-68706

BACKGROUND

Members of the NFAT (nuclear factor of activated T cells) family of transcription factors are related to NFκB/Rel proteins and form cooperative complexes with the AP-1 proteins Fos and Jun on DNA to regulate cytokine expression in T cells. NFAT proteins are widely expressed and alternatively modified to generate splice variants, and they are localized to both the cytosol (NFATc) and to the nucleus (NFATn). NFATc2, NFATc1 and NFATc3 are predominantly expressed in immune cells, and NFATc1 and NFATc4 are expressed at high levels in cardiac tissues. In addition to activating cytokine gene transcription, NFATc1 is also implicated in cardiac valve development, and NFATc4 is involved in cardiac hypertrophy. NFAT5 is detected in both immune and non-immune cells and, like other NFAT proteins, it contains a highly conserved Rel-like binding domain that mediates NFAT proteins associating with specific consensus sequences on DNA. NFAT proteins are activated by increases in intracellular calcium, which leads to the calmodulin-dependent phosphatase, calcineurin, dephosphorylating NFAT proteins. This activating event induces a conformational change in the protein structure that exposes the nuclear localization signal and facilitates the translocation of NFAT proteins from the cytosol into the nucleus.

REFERENCES

1. Hoey, T., et al. 1995. Isolation of two new members of the NFAT gene family and functional characterization of the NFAT proteins. *Immunity* 2: 461-472.
2. Park, J., et al. 1996. Characterization of a new isoform of the NFAT (nuclear factor of activated T cells) gene family member NFATc. *J. Biol. Chem.* 271: 20914-20921.
3. Lyakh, L., et al. 1997. Expression of NFAT-family proteins in normal human T cells. *Mol. Cell. Biol.* 17: 2475-2484.
4. Rao, A., et al. 1997. Transcription factors of the NFAT family: regulation and function. *Annu. Rev. Immunol.* 15: 707-747.

CHROMOSOMAL LOCATION

Genetic locus: NFATC3 (human) mapping to 16q22.1; Nfatc3 (mouse) mapping to 8 D3.

SOURCE

p-NFATc3 (Ser 240) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 240 phosphorylated NFATc3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68706 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

p-NFATc3 (Ser 240) is recommended for detection of Ser 240 phosphorylated NFATc3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NFATc3 siRNA (h): sc-29413, NFATc3 siRNA (m): sc-36057, NFATc3 shRNA Plasmid (h): sc-29413-SH, NFATc3 shRNA Plasmid (m): sc-36057-SH, NFATc3 shRNA (h) Lentiviral Particles: sc-29413-V and NFATc3 shRNA (m) Lentiviral Particles: sc-36057-V.

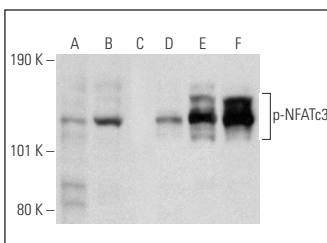
Molecular Weight of p-NFATc3: 115-120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or Jurkat + IL-2 cell lysate: sc-2278.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), and Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of NFATc3 phosphorylation in untreated (A, B, D, E) and lambda protein phosphatase (sc-200312A) treated (C, F) Jurkat whole cell lysates (A, D) and Jurkat nuclear extracts (B, C, E, F). Antibodies tested include p-NFATc3 (Ser 240): sc-68706 (A, B, C) and NFATc3 (F-1): sc-8405 (D, E, F).

STORAGE

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

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Try **p-NFATc3 (C-3): sc-365786**, our highly recommended monoclonal alternative to p-NFATc3 (Ser 240).