

p-NFATc3 (H-2): sc-365883

BACKGROUND

Members of the NFAT (nuclear factor of activated T cells) family of transcription factors are related to NF κ B/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

- 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-NFATc3 (H-2) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Ser 169 phosphorylated NFATc3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-NFATc3 (H-2) is available conjugated to agarose (sc-365883 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365883 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365883 PE), fluorescein (sc-365883 FITC), Alexa Fluor[®] 488 (sc-365883 AF488), Alexa Fluor[®] 546 (sc-365883 AF546), Alexa Fluor[®] 594 (sc-365883 AF594) or Alexa Fluor[®] 647 (sc-365883 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365883 AF680) or Alexa Fluor[®] 790 (sc-365883 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365883 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-NFATc3 (H-2) is recommended for detection of Ser 169 phosphorylated NFATc3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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.

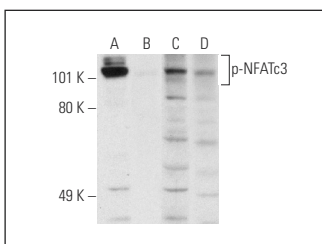
Molecular Weight of p-NFATc3: 115-120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, TK-1 whole cell lysate: sc-364798 or Jurkat + IL-2 cell lysate: sc-2278.

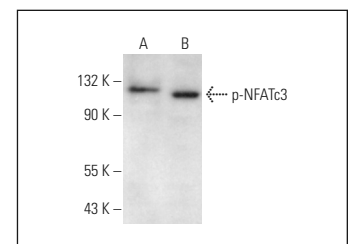
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Western blot analysis of NFATc3 phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) Jurkat whole cell lysates. Antibodies tested include p-NFATc3 (H-2): sc-365883 (A, B) and NFATc3 (M-75): sc-8321 (C, D).



p-NFATc3 (H-2): sc-365883. Western blot analysis of NFATc3 phosphorylation in Jurkat (A) and TK-1 (B) whole cell lysates.

STORAGE

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

RESEARCH USE

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

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