

p-NFATc3 (C-3): sc-365786

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). NFATc1 (NFATc), NFATc2 (NFATp) and NFATc3 (NFAT4, NFSTx) are predominantly expressed in immune cells. 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. Rao, A., et al. 1997. Transcription factors of the NFAT family: regulation and function. *Annu. Rev. Immunol.* 15: 707-747.
4. Lyakh, L., et al. 1997. Expression of NFAT-family proteins in normal human T cells. *Mol. Cell. Biol.* 17: 2475-2484.

CHROMOSOMAL LOCATION

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

SOURCE

p-NFATc3 (C-3) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Ser 240 phosphorylated NFATc3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-NFATc3 (C-3) is available conjugated to agarose (sc-365786 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365786 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365786 PE), fluorescein (sc-365786 FITC), Alexa Fluor[®] 488 (sc-365786 AF488), Alexa Fluor[®] 546 (sc-365786 AF546), Alexa Fluor[®] 594 (sc-365786 AF594) or Alexa Fluor[®] 647 (sc-365786 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365786 AF680) or Alexa Fluor[®] 790 (sc-365786 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365786 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

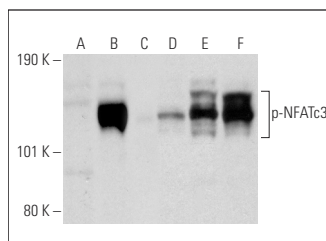
p-NFATc3 (C-3) is recommended for detection of Ser 240 phosphorylated NFATc3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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.

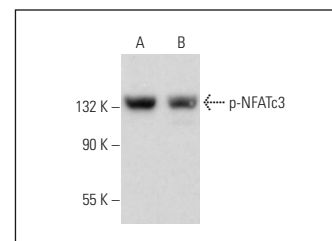
Molecular Weight of p-NFATc3: 115-120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Jurkat nuclear extract: sc-2132 or KNRK nuclear extract: sc-2141.

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 (C-3): sc-365786 (A, B, C) and NFATc3 (F-1): sc-8405 (D, E, F).



p-NFATc3 (C-3): sc-365786. Western blot analysis of NFATc3 phosphorylation in Jurkat (A) and KNRK (B) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Lakhkar, A., et al. 2016. 20-HETE-induced mitochondrial superoxide and inflammatory phenotype in vascular smooth muscle is prevented by glucose-6-phosphate dehydrogenase inhibition. *Am. J. Physiol. Heart Circ. Physiol.* 310: H1107-H1117.
2. He, X., et al. 2017. Major contribution of the 3/6/7 class of TRPC channels to myocardial ischemia/reperfusion and cellular hypoxia/reoxygenation injuries. *Proc. Natl. Acad. Sci. USA* 114: E4582-E4591.
3. Irnaten, M., et al. 2020. Receptor potential channels TRPC1/TRPC6 regulate lamina cribrosa cell extracellular matrix gene transcription and proliferation. *Exp. Eye Res.* 193: 107980.

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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