SANTA CRUZ BIOTECHNOLOGY, INC.

p-NFATc4 (Ser 259): sc-32986

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The Power to Question

BACKGROUND

NFATc4 (nuclear factor of activated T cells, cytoplasmic, calcineurin-dependent 4) is a member of the nuclear factors of activated T cells DNA-binding transcription complex that influences cytokine gene expression, cardiac hypertrophy and adipocyte differentiation. This complex consists of at least two components, a cytosolic component that translocates to the nucleus upon T cell receptor (TCR) stimulation and an inducible nuclear component. Other members of this family participate in the formation of this complex. NFATc4 plays a role in the inducible expression of cytokine genes in T cells, including the induction of IL-2 and IL-4. p38 MAP kinase phosphorylates multiple residues, including Serine 259, in the NFAT homology domain of NFATc4.

REFERENCES

1. Yang, T., et al. 2001. Requirement of two NFATc4 transactivation domains for CBP potentiation. J. Biol. Chem. 276: 39569-39576.
2. Yang, T.T., et al. 2002. Phosphorylation of NFATc4 by p38 mitogen-activated protein kinases. Mol. Cell. Biol. 22: 3892-3904.
3. Wilkins, B.J., et al. 2002. Targeted disruption of NFATc3, but not NFATc4, reveals an intrinsic defect in calcineurin-mediated cardiac hypertrophic growth. Mol. Cell. Biol. 22: 7603-7613.
4. Graef, I.A., et al. 2003. Neurotrophins and netrins require calcineurin/NFAT signaling to stimulate outgrowth of embryonic axons. Cell 113: 657-670.
5. Mathew, S., et al. 2004. A ternary complex of transcription factors, Nished and NFATc4, and co-activator p300 bound to an intronic sequence, intronic regulatory element, is pivotal for the upregulation of myosin light chain-IIV gene in cardiac hypertrophy. J. Biol. Chem. 279: 41018-41027.
6. Jayanthi, S., et al. 2005. Calcineurin/NFAT-induced upregulation of the FAS ligand/FAS death pathway is involved in methamphetamine-induced neuronal apoptosis. Proc. Natl. Acad. Sci. USA 102: 868-873.
7. Yang, T.T., et al. 2005. Recruitment of the extracellular signal-regulated kinase/ribosomal S6 kinase signaling pathway to the NFATc4 transcription activation complex. Mol. Cell. Biol. 25: 907-920.
8. Oka, T., et al. 2005. Regulation of calcineurin through transcriptional induction of the calcineurin A β promoter *in vitro* and *in vivo*. Mol. Cell. Biol. 25: 6649-6659.

CHROMOSOMAL LOCATION

Genetic locus: NFATC4 (human) mapping to 14q12; Nfatc4 (mouse) mapping to 14 C3.

SOURCE

p-NFATc4 (Ser 259) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 259 NFATc4 of human origin.

STORAGE

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

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-32986 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-NFATc4 (Ser 259) is recommended for detection of Ser 259 phosphorylated NFATc4 SRR-2/NLS domain 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).

p-NFATc4 (Ser 259) is also recommended for detection of correspondingly phosphorylated NFATc4 SRR-2/NLS domain in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NFATc4 siRNA (h): sc-38115, NFATc4 siRNA (m): sc-38116, NFATc4 shRNA Plasmid (h): sc-38115-SH, NFATc4 shRNA Plasmid (m): sc-38116-SH, NFATc4 shRNA (h) Lentiviral Particles: sc-38115-V and NFATc4 shRNA (m) Lentiviral Particles: sc-38116-V.

Molecular Weight of p-NFATc4: 140-160 kDa.

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

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), 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.