

# NFATc4 (F-3): sc-271091

## 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 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-2v 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.

## CHROMOSOMAL LOCATION

Genetic locus: NFATC4 (human) mapping to 14q12.

## SOURCE

NFATc4 (F-3) is a mouse monoclonal antibody raised against amino acids 125-198 of NFATc4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</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-271091 X, 200 µg/0.1 ml.

## STORAGE

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

## APPLICATIONS

NFATc4 (F-3) is recommended for detection of NFATc4 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

NFATc4 (F-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of dephosphorylated NFATc4: 140 kDa.

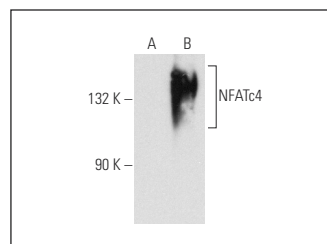
Molecular Weight of hyperphosphorylated NFATc4: 160 kDa.

Positive Controls: NFATc4 (h): 293T Lysate: sc-116481.

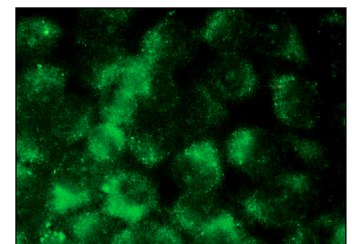
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



NFATc4 (F-3): sc-271091. Western blot analysis of NFATc4 expression in non-transfected: sc-117752 (A) and human NFATc4 transfected: sc-116481 (B) 293T whole cell lysates.



NFATc4 (F-3): sc-271091. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Briones, A.M., et al. 2012. Adipocytes produce aldosterone through calcineurin-dependent signaling pathways: implications in diabetes mellitus-associated obesity and vascular dysfunction. *Hypertension* 59: 1069-1078.

## RESEARCH USE

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