SANTA CRUZ BIOTECHNOLOGY, INC.

# NFATc4 (F-4): sc-515584

SANTA CRUZ BIOTECHNOLOGY

*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 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. 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; Nfatc4 (mouse) mapping to 14 C3.

## SOURCE

NFATc4 (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 877-902 at the C-terminus of NFATc4 of human origin.

## PRODUCT

Each vial contains 200 µg IgM 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-515584 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-515584 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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-4) is recommended for detection of NFATc4 of mouse, rat and 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 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.

NFATc4 (F-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of dephosphorylated NFATc4: 140 kDa.

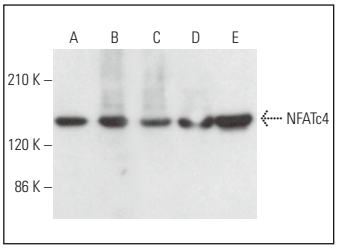
Molecular Weight of hyperphosphorylated NFATc4: 160 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

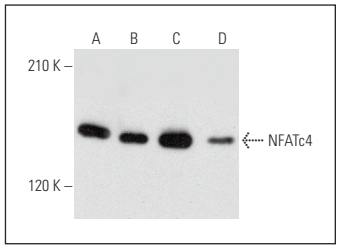
## RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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-4): sc-515584. Western blot analysis of NFATc4 expression in Jurkat (**A**), ALL-SIL (**B**), SUP-T1 (**C**), TK-1 (**D**) and BYDP (**E**) whole cell lysates.




NFATc4 (F-4): sc-515584. Western blot analysis of NFATc4 expression in Jurkat (**A**), MCF7 (**B**) and HeLa (**C**) whole cell lysates and human placenta tissue extract (**D**).

## RESEARCH USE

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

CONJUGATES

See **NFATc4 (B-2): sc-271597** for NFATc4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.