SANTA CRUZ BIOTECHNOLOGY, INC.

NFATc4 (A-2): sc-271127

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.

CHROMOSOMAL LOCATION

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

SOURCE

NFATc4 (A-2) is a mouse monoclonal antibody raised against amino acids 125-198 of NFATc4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-271127 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

NFATc4 (A-2) 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 (A-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of dephosphorylated NFATc4: 140 kDa.

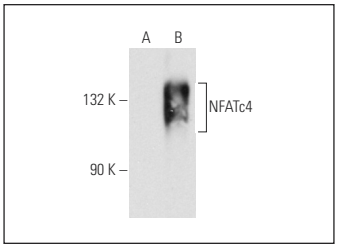
Molecular Weight of hyperphosphorylated NFATc4: 160 kDa.

Positive Controls: NFATc4 (h): 293T Lysate: sc-116481 or HeLa whole cell lysate: sc-2200.

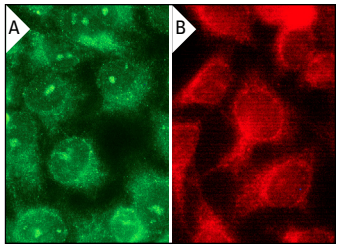
RECOMMENDED SUPPORT REAGENTS

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 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 (A-2): sc-271127. Western blot analysis of NFATc4 expression in non-transfected: sc-117752 (**A**) and human NFATc4 transfected: sc-116481 (**B**) 293T whole cell lysates.



NFATc4 (A-2): sc-271127. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Seo, H.H., et al. 2016. The role of nuclear factor of activated T cells during phorbol myristate acetate-induced cardiac differentiation of mesenchymal stem cells. Stem Cell Res. Ther. 7: 90.
2. Kotla, S., et al. 2017. Heterodimers of the transcriptional factors NFATc3 and FosB mediate tissue factor expression for 15S-hydroxyeicosatetraenoic acid-induced monocyte trafficking. J. Biol. Chem. 292: 14885-14901.
3. Shin, N., et al. 2021. Pimecrolimus interferes the therapeutic efficacy of human mesenchymal stem cells in atopic dermatitis by regulating NFAT-COX2 signaling. Stem Cell Res. Ther. 12: 482.

STORAGE

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

PROTOCOLS

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

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.