

NFATc1 (H-110): sc-13033

BACKGROUND

Members of the NFAT (nuclear factor of activated T cells) family of transcription factors are related to NFκB/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). NFAT1, NFAT2, and NFAT4 are predominantly expressed in immune cells, and NFAT2 and NFAT3 are expressed at high levels in cardiac tissues. In addition to activating cytokine gene transcription, NFAT2 is also implicated in cardiac valve development, and NFAT3 is involved in cardiac hypertrophy. NFAT5 is detected in both immune and nonimmune cells and, like other NFAT proteins, it contains a highly conserved Rel-like binding domain that mediates NFAT proteins associating with specific consensus sequences on DNA. 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.

CHROMOSOMAL LOCATION

Genetic locus: NFATC1 (human) mapping to 18q23; Nfatc1 (mouse) mapping to 18 E3.

SOURCE

NFATc1 (H-110) is a rabbit polyclonal antibody raised against amino acids 1-110 of NFATc1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13033 X, 200 µg/0.1 ml.

APPLICATIONS

NFATc1 (H-110) is recommended for detection of NFATc1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 NFATc1 siRNA (h): sc-29412, NFATc1 siRNA (m): sc-36054, NFATc1 shRNA Plasmid (h): sc-29412-SH, NFATc1 shRNA Plasmid (m): sc-36054-SH, NFATc1 shRNA (h) Lentiviral Particles: sc-29412-V and NFATc1 shRNA (m) Lentiviral Particles: sc-36054-V.

NFATc1 (H-110) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

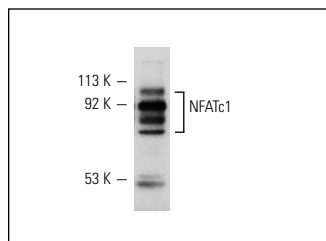
Molecular Weight of NFATc1 isoforms 1/2/3: 90/110/140 kDa.

Positive Controls: Ramos cell lysate: sc-2216 or Jurkat + IL-2 cell lysate: sc-2278.

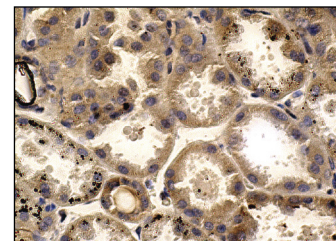
STORAGE

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

DATA



NFATc1 (H-110): sc-13033. Western blot analysis of NFATc1 expression in Ramos whole cell lysate.



NFATc1 (H-110): sc-13033. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

- van Rooij, E., et al. 2002. Requirement of nuclear factor of activated T-cells in calcineurin-mediated cardiomyocyte hypertrophy. *J. Biol. Chem.* 277: 48617-48626.
- Landry, J.W., et al. 2011. Chromatin remodeling complex NURF regulates thymocyte maturation. *Genes Dev.* 25: 275-286.
- Treves, S., et al. 2011. Enhanced excitation-coupled Ca²⁺ entry induces nuclear translocation of NFAT and contributes to IL-6 release from myotubes from patients with central core disease. *Hum. Mol. Genet.* 20: 589-600.
- Lunde, I.G., et al. 2011. Angiotensin II and norepinephrine activate specific calcineurin-dependent NFAT transcription factor isoforms in cardiomyocytes. *J. Appl. Physiol.* 111: 1278-1289.
- Meissner, J.D., et al. 2011. Extracellular signal-regulated kinase 1/2-mediated phosphorylation of p300 enhances myosin heavy chain I/β gene expression via acetylation of nuclear factor of activated T cells c1. *Nucleic Acids Res.* 39: 5907-5925.
- Penolazzi, L., et al. 2011. Transcription factor decoy against NFATc1 in human primary osteoblasts. *Int. J. Mol. Med.* 28: 199-206.
- Garcia-Gomez, A., et al. 2012. RAF265, a dual BRAF and VEGFR2 inhibitor, prevents osteoclast formation and resorption. Therapeutic implications. *Invest. New Drugs* 31: 200-205.

RESEARCH USE

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



Try **NFATc1 (7A6): sc-7294** or **NFATc1 (H-10): sc-17834**, our highly recommended monoclonal alternatives to NFATc1 (H-110). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **NFATc1 (7A6): sc-7294**.