SANTA CRUZ BIOTECHNOLOGY, INC.

NFATc3 (C-20): sc-1152

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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). NFATc1 (NFATc), NFATc2 (NFATp) and NFATc3 (NFAT4, NFSTx) are predominantly expressed in immune cells. 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: NFATC3 (human) mapping to 16q22.1.

SOURCE

NFATc3 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NFATc3 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.

Blocking peptide available for competition studies, sc-1152 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-1152 X, 200 µg/0.1 ml.

APPLICATIONS

NFATc3 (C-20) is recommended for detection of NFATc3 of 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), 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).

NFATc3 (C-20) is also recommended for detection of NFATc3 in additional species, including equine and bovine.

Suitable for use as control antibody for NFATc3 siRNA (h): sc-29413, NFATc3 shRNA Plasmid (h): sc-29413-SH and NFATc3 shRNA (h) Lentiviral Particles: sc-29413-V.

NFATc3 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of dephosphorylated NFATc3: 130 kDa.

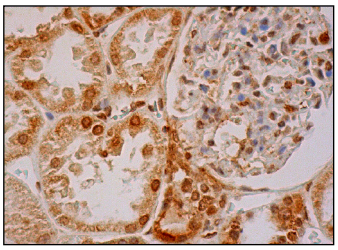
Molecular Weight of phosphorylated NFATc3: 190 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

STORAGE

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

DATA



NFATc3 (C-20): sc-1152. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in glomeruli and nuclear and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Ogawa, K., et al. 2002. Transcriptional regulation of the IL-5 gene in peripheral T cells of asthmatic patients. Clin. Exp. Immunol. 130: 475-483.
2. Dave, V., et al. 2004. Nuclear factor of activated T cells regulates transcription of the surfactant protein D gene (Sftpd) via direct interaction with thyroid transcription factor-1 in lung epithelial cells. J. Biol. Chem. 279: 34578-34588.
3. Wu, C.H., et al. 2005. 17β-estradiol reduces cardiac hypertrophy mediated through the up-regulation of PI3K/Akt and the suppression of calcineurin/NF-AT3 signaling pathways in rats. Life Sci. 78: 347-356.
4. 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.
5. Rinne, A., et al. 2010. Isoform- and tissue-specific regulation of the Ca^{2+}-sensitive transcription factor NFAT in cardiac myocytes and heart failure. Am. J. Physiol. Heart Circ. Physiol. 298: H2001-H2009.

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.