

NFATc1 (H-10): sc-17834

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, and NFAT2 and NFAT4 are expressed at high levels in cardiac tissues. In addition to activating cytokine gene transcription, NFATc2 is also implicated in cardiac valve development, and NFATc4 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-10) is a mouse monoclonal antibody raised against amino acids 1-110 of NFATc1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-17834 X, 200 µg/0.1 ml.

APPLICATIONS

NFATc1 (H-10) is recommended for detection of NFATc1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 siRNA (r): sc-77366, NFATc1 shRNA Plasmid (h): sc-29412-SH, NFATc1 shRNA Plasmid (m): sc-36054-SH, NFATc1 shRNA Plasmid (r): sc-77366-SH, NFATc1 shRNA (h) Lentiviral Particles: sc-29412-V, NFATc1 shRNA (m) Lentiviral Particles: sc-36054-V and NFATc1 shRNA (r) Lentiviral Particles: sc-77366-V.

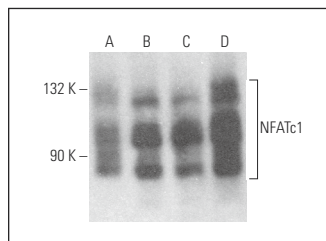
NFATc1 (H-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

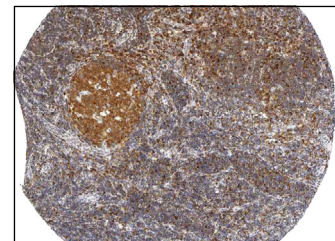
STORAGE

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

DATA



NFATc1 (H-10): sc-17834. Western blot analysis of NFATc1 expression in NAMALWA (A), BJAB (B), Raji (C) and Ramos (D) whole cell lysates.



NFATc1 (H-10): sc-17834. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of follicle and non-follicle cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Joshi, S., et al. 2011. 1,25-dihydroxyvitamin D₃ ameliorates Th17 autoimmunity via transcriptional modulation of interleukin-17A. *Mol. Cell. Biol.* 31: 3653-3669.
- Wang, L., et al. 2015. NFATc1 activation promotes the invasion of U251 human glioblastoma multiforme cells through Cox-2. *Int. J. Mol. Med.* 35: 1333-1340.
- Shang, W., et al. 2016. Curcumin inhibits osteoclastogenic potential in PBMCs from rheumatoid arthritis patients via the suppression of MAPK/RANK/c-Fos/NFATc1 signaling pathways. *Mol. Med. Rep.* 14: 3620-3626.
- Saresella, M., et al. 2017. Immunological and clinical effect of diet modulation of the gut microbiome in multiple sclerosis patients: a pilot study. *Front. Immunol.* 8: 1391.
- Bristol, J.A., et al. 2018. A cancer-associated Epstein-Barr virus BZLF1 promoter variant enhances lytic infection. *PLoS Pathog.* 14: e1007179.
- Guo, R.H., et al. 2019. Inhibitory effects of ChondroT and its constituent herbs on RANKL-induced osteoclastogenesis. *BMC Complement. Altern. Med.* 19: 319.
- Gironi, M., et al. 2020. Platelet glutamate uptake and Th1 cells inversely correlate in relapsing/remitting and in progressive multiple sclerosis. *Mult. Scler. Relat. Disord.* 41: 102007.

RESEARCH USE

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



See **NFATc1 (7A6): sc-7294** for NFATc1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.