

# NFATc2 (G1-D10): sc-7295

## BACKGROUND

The NFAT (nuclear factor of activated T cells) family of transcription factors regulates cytokine expression in T cells. Members of the family include NFATc1 (NFATc), NFATc2 (NFATp), NFATn, NFATc3 (NFAT4, NFATx) and NFATc4 (NFAT3). Recognition of antigen by the T cell receptor (TCR) eventually activates the calcium-dependent protein phosphatase calcineurin. Once activated, calcineurin stimulates the translocation of NFATc1 (cytoplasmic) from the cytoplasm to the nucleus where it associates with NFATn (nuclear). Like NFATc1, NFATc2 resides in the cytoplasm and translocates to the nucleus subsequent to activation of calcineurin. Once in the nucleus, NFATc2 synergizes with AP-1 transcription factors to initiate transcription of cytokine genes. NFATc3 and NFATc4 share 65% sequence identity with other members of the NFAT family. They are similar to NFATc2 in that they also synergize with the AP-1 family of proteins.

## CHROMOSOMAL LOCATION

Genetic locus: NFATC2 (human) mapping to 20q13.2; Nfatc2 (mouse) mapping to 2 H3.

## SOURCE

NFATc2 (G1-D10) is a mouse monoclonal antibody raised against amino acids 433-567 of NFATc2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-7295 X, 200 µg/0.1 ml.

## APPLICATIONS

NFATc2 (G1-D10) is recommended for detection of NFATc2 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NFATc2 siRNA (h): sc-36055, NFATc2 siRNA (m): sc-36056, NFATc2 shRNA Plasmid (h): sc-36055-SH, NFATc2 shRNA Plasmid (m): sc-36056-SH, NFATc2 shRNA (h) Lentiviral Particles: sc-36055-V and NFATc2 shRNA (m) Lentiviral Particles: sc-36056-V.

NFATc2 (G1-D10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NFATc2: 135 kDa.

Positive Controls: 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.

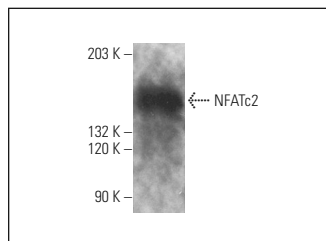
## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## DATA



Western blot analysis of NFATc2 expression in Ramos whole cell lysate immunoprecipitated with NFATc2 (G1-D10): sc-7295 and detected with NFATc2 (4G6-G5): sc-7296.

## SELECT PRODUCT CITATIONS

- Dong, C., et al. 1998. Defective T cell differentiation in the absence of JNK1. *Science* 282: 2092-2095.
- Lawrence, M.C., et al. 2009. Multiple chromatin-bound protein kinases assemble factors that regulate Insulin gene transcription. *Proc. Natl. Acad. Sci. USA* 106: 22181-22186.
- Gómez-Sintes, R., et al. 2010. NFAT/Fas signaling mediates the neuronal apoptosis and motor side effects of GSK-3 inhibition in a mouse model of lithium therapy. *J. Clin. Invest.* 120: 2432-2445.
- Olauson, H., et al. 2013. Parathyroid-specific deletion of Klotho unravels a novel calcineurin-dependent FGF23 signaling pathway that regulates PTH secretion. *PLoS Genet.* 9: e1003975.
- Asghar, H., et al. 2015. Identification of novel regulatory NFAT and TFII-I binding elements in the calbindin-D28k promoter in response to serum deprivation. *Biochem. Biophys. Res. Commun.* 465: 414-420.
- Im, J.Y., et al. 2016. DNA damage-induced apoptosis suppressor (DDIAS), a novel target of NFATc1, is associated with cisplatin resistance in lung cancer. *Biochim. Biophys. Acta* 1863: 40-49.
- Ruscitti, P., et al. 2020. Pro-inflammatory properties of H-ferritin on human macrophages, *ex vivo* and *in vitro* observations. *Sci. Rep.* 10: 12232.
- Im, J.Y., et al. 2021. DGG-100629 inhibits lung cancer growth by suppressing the NFATc1/DDIAS/STAT3 pathway. *Exp. Mol. Med.* 53: 643-653.
- Darden, C.M., et al. 2022. Calcineurin/NFATc2 and PI3K/AKT signaling maintains  $\beta$ -cell identity and function during metabolic and inflammatory stress. *iScience* 25: 104125.

## CONJUGATES

See **NFATc2 (4G6-G5): sc-7296** for NFATc2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.