

# NFATc4 (B-2): sc-271597

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: NFATC4 (human) mapping to 14q12; Nfatc4 (mouse) mapping to 14 C3.

## SOURCE

NFATc4 (B-2) is a mouse monoclonal antibody raised against amino acids 125-198 of NFATc4 of human 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-271597 X, 200 µg/0.1 ml.

NFATc4 (B-2) is available conjugated to agarose (sc-271597 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271597 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271597 PE), fluorescein (sc-271597 FITC), Alexa Fluor® 488 (sc-271597 AF488), Alexa Fluor® 546 (sc-271597 AF546), Alexa Fluor® 594 (sc-271597 AF594) or Alexa Fluor® 647 (sc-271597 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271597 AF680) or Alexa Fluor® 790 (sc-271597 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

NFATc4 (B-2) is recommended for detection of NFATc4 of mouse, rat and 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), 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 NFATc4 siRNA (h): sc-38115, NFATc4 siRNA (m): sc-38116, NFATc4 shRNA Plasmid (h): sc-38115-SH, NFATc4 shRNA Plasmid (m): sc-38116-SH, NFATc4 shRNA (h) Lentiviral Particles: sc-38115-V and NFATc4 shRNA (m) Lentiviral Particles: sc-38116-V.

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

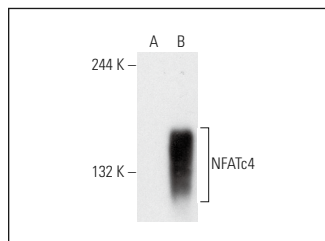
Molecular Weight of dephosphorylated NFATc4: 140 kDa.

Molecular Weight of hyperphosphorylated NFATc4: 160 kDa.

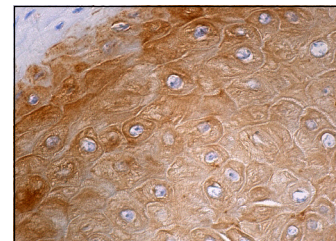
## STORAGE

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

## DATA



NFATc4 (B-2): sc-271597. Western blot analysis of NFATc4 expression in non-transfected: sc-117752 (A) and human NFATc4 transfected: sc-116481 (B) 293T whole cell lysates.



NFATc4 (B-2): sc-271597. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells.

## SELECT PRODUCT CITATIONS

- Qin, J.J., et al. 2017. Targeting the NFAT1-MDM2-MDMX network inhibits the proliferation and invasion of prostate cancer cells, independent of p53 and androgen. *Front. Pharmacol.* 8: 917.
- Sorriento, D., et al. 2018. The amino-terminal domain of GRK5 inhibits cardiac hypertrophy through the regulation of calcium-calmodulin dependent transcription factors. *Int. J. Mol. Sci.* 19: 861.
- Chang, C., et al. 2019. Downregulation of TRPC6 expression is a critical molecular event during FK506 treatment for overactive bladder. *Cell Calcium* 77: 8-19.
- Cole, A.J., et al. 2020. NFATc4 promotes quiescence and chemotherapy resistance in ovarian cancer. *JCI Insight* 5: e131486.
- Xian, H., et al. 2021. Metformin inhibition of mitochondrial ATP and DNA synthesis abrogates NLRP3 inflammasome activation and pulmonary inflammation. *Immunity* 54: 1463-1477.e11.
- Pan, R., et al. 2022. CAMTA1-PPP3CA-NFATc4 multi-protein complex mediates the resistance of colorectal cancer to oxaliplatin. *Cell Death Discov.* 8: 129.
- Shanmugam, S., et al. 2023. Ethanol inhibition of undifferentiated rat neural progenitor cell replication can be prevented by chlorogenic acid via the NFATc4/CSE signaling pathway. *Alcohol Clin. Exp. Res.* 47: 1530-1543.
- Pathan, S.S., et al. 2024. Activation of a GPCR, ORL1 receptor: a novel therapy to prevent heart failure progression. *J. Cardiovasc. Dev. Dis.* 11: 355.

## RESEARCH USE

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

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