

NFATc2 (4G6-G5): sc-7296

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 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 (4G6-G5) is a mouse monoclonal antibody raised against amino acids 433-567 of NFATc2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-7296 X, 200 µg/0.1 ml.

NFATc2 (4G6-G5) is available conjugated to agarose (sc-7296 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7296 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7296 PE), fluorescein (sc-7296 FITC), Alexa Fluor[®] 488 (sc-7296 AF488), Alexa Fluor[®] 546 (sc-7296 AF546), Alexa Fluor[®] 594 (sc-7296 AF594) or Alexa Fluor[®] 647 (sc-7296 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-7296 AF680) or Alexa Fluor[®] 790 (sc-7296 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NFATc2 (4G6-G5) 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); not recommended for IF.

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 (4G6-G5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

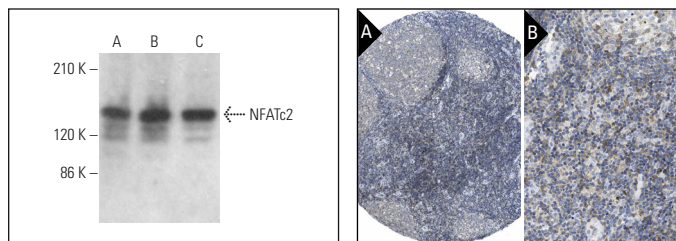
Molecular Weight of NFATc2: 135 kDa.

Positive Controls: U-698-M whole cell lysate: sc-364799, Daudi cell lysate: sc-2415 or TK-1 whole cell lysate: sc-364798.

STORAGE

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

DATA



NFATc2 (4G6-G5): sc-7296. Western blot analysis of NFATc2 expression in U-698-M (A), Daudi (B) and TK-1 (C) whole cell lysates.

NFATc2 (4G6-G5): sc-7296. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of lymphoid cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Ho, I.C., et al. 1998. A potential role for the nuclear factor of activated T cells family of transcriptional regulatory proteins in adipogenesis. *Proc. Natl. Acad. Sci. USA* 95: 15537-15541.
- Heo, D.K., et al. 2015. Regulation of phagocytosis and cytokine secretion by store-operated calcium entry in primary isolated murine microglia. *Cell. Signal.* 27: 177-186.
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- Zhao, X., et al. 2017. JNK1 negatively controls antifungal innate immunity by suppressing CD23 expression. *Nat. Med.* 23: 337-346.
- Kycia, I., et al. 2018. A common type 2 diabetes risk variant potentiates activity of an evolutionarily conserved Islet stretch enhancer and increases C2CD4A and C2CD4B expression. *Am. J. Hum. Genet.* 102: 620-635.
- Lee, S.H., et al. 2019. NFATc3 plays an oncogenic role in oral/oropharyngeal squamous cell carcinomas by promoting cancer stemness via expression of OCT4. *Oncotarget* 10: 2306-2319.
- Harada, M., et al. 2020. Eomesodermin promotes interaction of RelA and NFATc2 with the Ifng promoter and multiple conserved noncoding sequences across the Ifng locus in mouse lymphoma BW5147 cells. *Immunol. Lett.* 225: 33-43.
- 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.

RESEARCH USE

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

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