SANTA CRUZ BIOTECHNOLOGY, INC.

p-NFATc2 (Ser 326): sc-32994

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. NFATc2 is phosphorylated by NFATc-kinase and is inducibly expressed in T lymphocytes after TCR complex activation. The phosphorylated form of NFATc2 localizes to the cytoplasm. It is dephosphorylated by calcineurin and localizes to the nucleus after dephosphorylation.

REFERENCES

1. Emmel, E.A., et al. 1989. Cyclosporin A specifically inhibits function of nuclear proteins involved in T cell activation. Science 246: 1617-1620.
2. Flanagan, W.M., et al. 1991. Nuclear association of a T cell transcription factor blocked by FK-506 and Cyclosporin A. Nature 352: 803-807.
3. Liu, J., et al. 1991. Calcineurin is a common target of Cyclophilin-Cyclosporin A and FKBP-FK506 complexes. Cell 66: 807-815.
4. Jain, J., et al. 1993. The T cell transcription factor NFATp is a substrate for calcineurin and interacts with Fos and Jun. Nature 365: 352-355.
5. Northrop, J.P., et al. 1994. NFAT components define a family of transcription factors targeted in T cell activation. Nature 369: 497-502.

CHROMOSOMAL LOCATION

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

SOURCE

p-NFATc2 (Ser 326) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 326 phosphorylated NFATc2 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-32994-R P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-NFATc2 (Ser 326) is recommended for detection of Ser 326 phosphorylated NFATc2 KTS domain 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

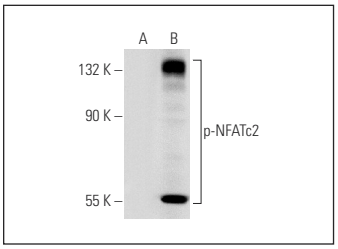
p-NFATc2 (Ser 326) is also recommended for detection of correspondingly phosphorylated NFATc2 KTS domain in additional species, including equine, canine, bovine and porcine.

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.

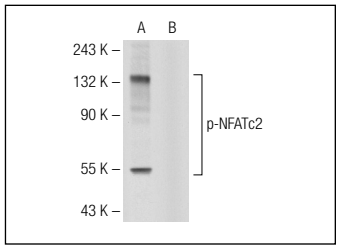
Molecular Weight of p-NFATc2: 135 kDa.

Positive Controls: Ramos cell lysate: sc-2216, MOLT-4 cell lysate: sc-2233 or Jurkat + IL-2 cell lysate: sc-2278.

DATA



p-NFATc2 (Ser 326): sc-32994. Western blot analysis of NFATc2 phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) MOLT-4 whole cell lysates.



p-NFATc2 (Ser 326): sc-32994. Western blot analysis of NFATc2 phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) Jurkat whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lunde, I.G., et al. 2011. Angiotensin II and norepinephrine activate specific calcineurin-dependent NFAT transcription factor isoforms in cardiomyocytes. J. Appl. Physiol. 111: 1278-1289.

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.