SANTA CRUZ BIOTECHNOLOGY, INC.

Nrf1 (C-19): sc-721

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The NF-E2 DNA binding protein is composed of two subunits, p45 and MafK, and it regulates expression of globin genes in developing erythroid cells through interaction with Maf recognition elements (MAREs). A family of NF-E2 related proteins, which are collectively known as the Cap "n" collar (CNC) family and include Nrf1 (also designated TCF11), Nrf2 and Nrf3, are bZIP transcription factors that heterodimerize with Maf proteins to bind MARE sequences. The Nrf proteins also bind the antioxidant response element (ARE) and are implicated in the regulation of detoxification enzymes and the oxidative stress response. They do so by heterodimerizing with Jun family members (c-Jun, JunB and JunD) to activate gene expression, specifically the detoxifying enzyme, NQO1. Nrf2 is widely expressed and is thought to translocate to the nucleus after treatment with xenobiotics and antioxidants, which stimulate its release from a repressor protein Keap1. Nrf3 is highly expressed in placenta, B cells and monocytes.

CHROMOSOMAL LOCATION

Genetic locus: NFE2L1 (human) mapping to 17q21.32; Nfe2l1 (mouse) mapping to 11 D.

SOURCE

Nrf1 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Nrf1 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-721 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-721 X, 200 µg/0.1 ml.

APPLICATIONS

Nrf1 (C-19) is recommended for detection of Nrf1 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).

Nrf1 (C-19) is also recommended for detection of Nrf1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for Nrf1 siRNA (h): sc-43575, Nrf1 siRNA (m): sc-43576, Nrf1 shRNA Plasmid (h): sc-43575-SH, Nrf1 shRNA Plasmid (m): sc-43576-SH, Nrf1 shRNA (h) Lentiviral Particles: sc-43575-V and Nrf1 shRNA (m) Lentiviral Particles: sc-43576-V.

Nrf1 (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

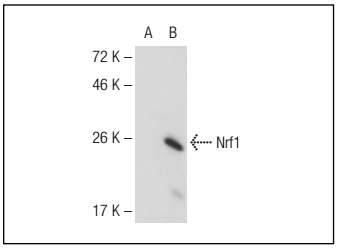
Molecular Weight of Nrf1 bZIP region: 30 kDa.

Molecular Weight of glycosylated Nrf1: 65-120 kDa.

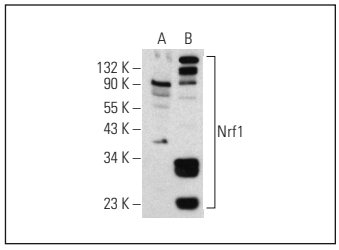
STORAGE

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

DATA



Nrf1 (C-19): sc-721. Western blot analysis of Nrf1 expression in non-transfected: sc-117752 (**A**) and mouse Nrf1 transfected: sc-125720 (**B**) 293T whole cell lysates.



Nrf1 (C-19): sc-721. Western blot analysis of Nrf1 expression in non-transfected: sc-117752 (**A**) and human Nrf1 transfected: sc-111140 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Venugopal, R., et al. 1998. Nrf2 and Nrf1 in association with Jun proteins regulate antioxidant response element-mediated expression and coordinated induction of genes encoding detoxifying enzymes. Oncogene 17: 3145-3156.
2. Duvoix, A., et al. 2004. Expression of glutathione S-transferase P1-1 in leukemic cells is regulated by inducible AP-1 binding. Cancer Lett. 216: 207-219.
3. Eghbali-Fatourechi, G.Z., et al. 2005. Circulating osteoblast-lineage cells in humans. N. Engl. J. Med. 352: 1959-1966.
4. Tanito, M., et al. 2005. Sulforaphane induces thioredoxin through the antioxidant-responsive element and attenuates retinal light damage in mice. Invest. Ophthalmol. Vis. Sci. 46: 979-987.
5. Berg, D.T., et al. 2007. Negative regulation of inducible nitric-oxide synthase expression mediated through transforming growth factor-β-dependent modulation of transcription factor TCF11. J. Biol. Chem. 282: 6837-36844.
6. Hock, T.D., et al. 2007. JunB and JunD regulate human heme oxygenase-1 gene expression in renal epithelial cells. J. Biol. Chem. 282: 6875-6886.
7. Hallberg, M., et al. 2008. A functional interaction between RIP140 and PGC-1α regulates the expression of the lipid droplet protein CIDEA. Mol. Cell. Biol. 28: 6785-6795.

RESEARCH USE

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