

Nrf1 (H-285): sc-13031

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, Jun B and Jun D) 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 (H-285) is a rabbit polyclonal antibody raised against amino acids 191-475 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13031 X, 200 µg/0.1 ml.

APPLICATIONS

Nrf1 (H-285) 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 (H-285) is also recommended for detection of Nrf1 in additional species, including equine.

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 (H-285) 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.

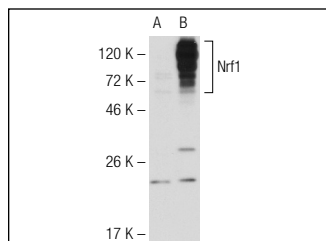
RESEARCH USE

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

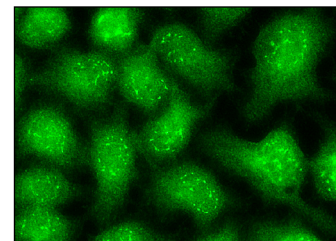
STORAGE

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

DATA



Nrf1 (H-285): sc-13031. Western blot analysis of Nrf1 expression in non-transfected: sc-117752 (A) and mouse Nrf1 transfected: sc-125720 (B) 293T whole cell lysates.



Nrf1 (H-285): sc-13031. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Narayanan, K., et al. 2004. The CCAAT enhancer-binding protein (C/EBP)β and Nrf1 interact to regulate dentin sialophosphoprotein (DSPP) gene expression during odontoblast differentiation. *J. Biol. Chem.* 279: 45495-45502.
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- Zhao, R., et al. 2011. Long isoforms of NRF1 contribute to arsenic-induced antioxidant response in human keratinocytes. *Environ. Health Perspect.* 119: 56-62.
- Tsuchiya, Y., et al. 2011. Dual regulation of the transcriptional activity of Nrf1 by β-TrCP- and Hrd1-dependent degradation mechanisms. *Mol. Cell Biol.* 31: 4500-4512.
- Hirotsu, Y., et al. 2012. NF-E2-related factor 1 (Nrf1) serves as a novel regulator of hepatic lipid metabolism through regulation of the Lipin1 and PGC-1β genes. *Mol. Cell Biol.* 32: 2760-2770.
- Chepeleva, N.L., et al. 2013. Competition of nuclear factor-erythroid 2 factors related transcription factor isoforms, Nrf1 and Nrf2, in antioxidant enzyme induction. *Redox Biol.* 1:183-189.
- Zhao, R., et al. 2013. Curcumin protects human keratinocytes against inorganic arsenite-induced acute cytotoxicity through an NRF2-dependent mechanism. *Oxid. Med. Cell. Longev.* 2013: 412576.



Try **Nrf1 (H-4): sc-28379** or **Nrf1 (G-5): sc-515360**, our highly recommended monoclonal alternatives to Nrf1 (H-285).