

# Nrf1 (H-4): sc-28379

## 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 (H-4) is a mouse monoclonal antibody raised against amino acids 191-475 of Nrf1 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-28379 X, 200 µg/0.1 ml.

## APPLICATIONS

Nrf1 (H-4) is recommended for detection of Nrf1 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 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-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of bZIP region: 30 kDa.

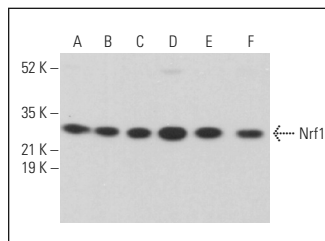
Molecular Weight of glycosylated Nrf1: 65-120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

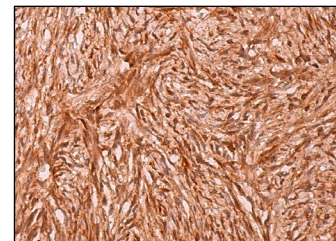
## STORAGE

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

## DATA



Nrf1 (H-4): sc-28379. Western blot analysis of Nrf1 expression in HeLa (A), TF-1 (B), K-562 (C), NIH/3T3 (D), RPE-J (E) and 3T3-L1 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Nrf1 (H-4): sc-28379. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of ovarian stroma cells.

## SELECT PRODUCT CITATIONS

- Chepelev, N.L., et al. 2011. The Nrf1 CNC-bZIP protein is regulated by the proteasome and activated by hypoxia. *PLoS ONE* 6: e29167.
- Yang, C.S., et al. 2014. The AMPK-PPARGC1A pathway is required for antimicrobial host defense through activation of autophagy. *Autophagy* 10: 785-802.
- Ettheto, M., et al. 2015. Hypercholesterolemia and neurodegeneration. Comparison of hippocampal phenotypes in LDLr knockout and APPswe/PS1dE9 mice. *Exp. Gerontol.* 65: 69-78.
- Petrov, D., et al. 2016. Evaluation of the role of JNK1 in the hippocampus in an experimental model of familial Alzheimer's disease. *Mol. Neurobiol.* 53: 6183-6193.
- Nazari Soltan Ahmad, S., et al. 2018. Dunnione protects against experimental cisplatin-induced nephrotoxicity by modulating NQO1 and NAD<sup>+</sup> levels. *Free Radic. Res.* 52: 808-817.
- Gilardini Montani, M.S., et al. 2019. EBV reduces autophagy, intracellular ROS and mitochondria to impair monocyte survival and differentiation. *Autophagy* 15: 652-667.
- Nazari Soltan Ahmad, S., et al. 2020. β-LAPachone ameliorates doxorubicin-induced cardiotoxicity via regulating autophagy and Nrf2 signalling pathways in mice. *Basic Clin. Pharmacol. Toxicol.* 126: 364-373.
- Ferreira, A.F.F., et al. 2020. Physical exercise protects against mitochondrial alterations in the 6-hydroxydopamine rat model of Parkinson's disease. *Behav. Brain Res.* 387: 112607.
- Chang, Y., et al. 2021. Metapristone (RU486-derivative) inhibits endometrial cancer cell progress through regulating miR-492/Klf5/Nrf1 axis. *Cancer Cell Int.* 21: 29.

## RESEARCH USE

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