

Nrf2 (C-20): sc-722

BACKGROUND

The NF-E2 DNA binding protein is composed of two subunits, p45 and MafK. 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.

CHROMOSOMAL LOCATION

Genetic locus: NFE2L2 (human) mapping to 2q31.2; Nfe2l2 (mouse) mapping to 2 C3.

SOURCE

Nrf2 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Nrf2 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-722 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-722 X, 200 µg/0.1 ml.

APPLICATIONS

Nrf2 (C-20) is recommended for detection of Nrf2 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), 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). Nrf2 (C-20) is also recommended for detection of Nrf2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Nrf2 siRNA (h): sc-37030, Nrf2 siRNA (m): sc-37049, shRNA Plasmid (h): sc-37030-SH, Nrf2 shRNA Plasmid (m): sc-37049-SH, Nrf2 shRNA (h) Lentiviral Particles: sc-37030-V and Nrf2 shRNA (m) Lentiviral Particles: sc-37049-V.

Nrf2 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Nrf2 isoforms: 68/66/65 kDa.

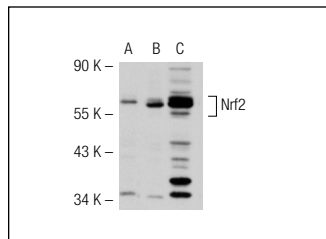
Molecular Weight (observed) of Nrf2: 61 kDa.

Molecular Weight of poly-ubiquitinated Nrf2: 100 kDa.

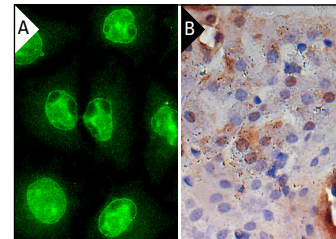
STORAGE

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

DATA



Nrf2 (C-20): sc-722. Western blot analysis of Nrf2 expression in non-transfected 293T: sc-117752 (A), mouse Nrf2 transfected 293T: sc-127242 (B) and Jurkat (C) whole cell lysates.



Nrf2 (C-20): sc-722. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing nuclear localization (B).

SELECT PRODUCT CITATIONS

1. Kawamoto, Y., et al. 2000. Cyclopentenone prostaglandins as potential inducers of phase II detoxification enzymes. *J. Biol. Chem.* 275: 11291-11299.
2. Huang, H.C. 2000. Regulation of the antioxidant response element by protein kinase C-mediated phosphorylation of NF-E2-related factor 2. *Proc. Natl. Acad. Sci. USA* 97: 12475-12480.
3. Chatterjee, S., et al. 2013. Regulation of autophagy in rat hepatocytes treated *in vitro* with low concentration of mercury. *Toxicol. Environ. Chem.* 95: 504-514.
4. Hollstein, P.E., et al. 2013. Identifying the ubiquitin ligase complex that regulates the NF1 tumor suppressor and Ras. *Cancer Discov.* 3: 880-893.
5. Wang, L., et al. 2013. The aryl hydrocarbon receptor interacts with nuclear factor erythroid 2-related factor 2 to mediate induction of NAD(P)H:quinoneoxidoreductase 1 by 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Arch. Biochem. Biophys.* 537: 31-38.
6. Yubero-Serrano, E.M., et al. 2013. Postprandial antioxidant gene expression is modified by Mediterranean diet supplemented with coenzyme Q₁₀ in elderly men and women. *Age* 35: 159-170.

RESEARCH USE

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

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