

NRF-1 (A-19): sc-23624

BACKGROUND

Nuclear respiratory factor-1 (NRF-1) is a transcriptional activator that has been implicated in the nuclear control of respiratory chain expression in mammalian cells. The NRF-1 gene is expressed during oogenesis and during the early stages of embryogenesis. *In vitro* studies have implicated NRF-1 in the transcriptional expression of nuclear genes required for mitochondrial respiratory function, as well as for other fundamental cellular activities. While most isolated wild-type and NRF-1^{+/-} blastocysts continue to develop normally *in vitro*, NRF-1^{-/-} blastocysts lack this ability, despite their normal morphology. NRF-1 is specifically required in the maintenance of mtDNA and respiratory chain function during early embryogenesis. NRF-1 also plays a key role in cellular adaptation to energy demands by translating physiological signals into an increased capacity for generating energy. Additionally, NRF-1 is a major transcription factor that binds the promoter in brain and testis.

CHROMOSOMAL LOCATION

Genetic locus: NRF1 (human) mapping to 7q32.2; Nrf1 (mouse) mapping to 6 A3.3.

SOURCE

NRF-1 (A-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NRF-1 of mouse 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-23624 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-23624 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-23624 X, 200 µg/0.1 ml.

APPLICATIONS

NRF-1 (A-19) is recommended for detection of NRF-1 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). NRF-1 (A-19) is also recommended for detection of NRF-1 in additional species, including equine, canine and avian.

Suitable for use as control antibody for NRF-1 siRNA (h): sc-38105, NRF-1 siRNA (m): sc-38106, NRF-1 shRNA Plasmid (h): sc-38105-SH, NRF-1 shRNA Plasmid (m): sc-38106-SH, NRF-1 shRNA (h) Lentiviral Particles: sc-38105-V and NRF-1 shRNA (m) Lentiviral Particles: sc-38106-V.

NRF-1 (A-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

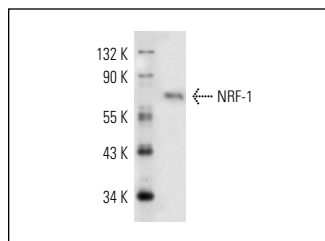
Molecular Weight of NRF-1: 68 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188.

STORAGE

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

DATA



NRF-1 (A-19): sc-23624. Western blot analysis of NRF-1 expression in C2C12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Arduini, A., et al. 2011. Mitochondrial biogenesis fails in secondary biliary cirrhosis in rats leading to mitochondrial DNA depletion and deletions. *Am. J. Physiol. Gastrointest. Liver Physiol.* 301: G119-G127.
2. Zhang, L., et al. 2011. Nuclear respiratory factor-1 is involved in mitochondrial dysfunction induced by benzo(a)pyrene in human bronchial epithelial cells. *Basic Clin. Pharmacol. Toxicol.* 109: 115-122.
3. Kumari, S., et al. 2012. Hyperglycemia alters mitochondrial fission and fusion proteins in mice subjected to cerebral ischemia and reperfusion. *Transl. Stroke Res.* 3: 296-304.

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.



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Try **NRF-1 (147.1): sc-101102**, our highly recommended monoclonal alternative to NRF-1 (A-19).