

Nucleoredoxin (E-12): sc-393748

BACKGROUND

Nucleoredoxin, also known as NXN, NRX or TRG-4, is a 435 amino acid cytoplasmic and nuclear protein that is conserved between mammalian species and acts as a redox-dependent negative regulator of the Wnt signaling pathway. Widely expressed in adult tissues, Nucleoredoxin is also found in the nervous system and the limb buds of embryos at day 10.5-11.5. Containing a conserved thioredoxin (TRX) domain and a catalytic motif for oxidoreductase activity, Nucleoredoxin is implied to function as a transcriptional regulator and may directly stimulate or inhibit PP2A-C α (protein phosphatase 2A). Known to directly interact with Dvl (dishevelled 1) during oxidative stress via its PDZ domain, the gene encoding Nucleoredoxin maps to human chromosome 17p13.3 and mouse chromosome 11 B5.

REFERENCES

1. Kurooka, H., et al. 1997. Cloning and characterization of the Nucleoredoxin gene that encodes a novel nuclear protein related to thioredoxin. *Genomics* 39: 331-339.
2. Laughner, B.J., et al. 1998. A novel nuclear member of the thioredoxin superfamily. *Plant Physiol.* 118: 987-996.
3. Hirota, K., et al. 2000. Nucleoredoxin, glutaredoxin, and thioredoxin differentially regulate NF κ B, AP-1, and CREB activation in HEK293 cells. *Biochem. Biophys. Res. Commun.* 274: 177-182.
4. Lechward, K., et al. 2006. Interaction of Nucleoredoxin with protein phosphatase 2A. *FEBS Lett.* 580: 3631-3637.

CHROMOSOMAL LOCATION

Genetic locus: NXN (human) mapping to 17p13.3; Nxn (mouse) mapping to 11 B5.

SOURCE

Nucleoredoxin (E-12) is a mouse monoclonal antibody raised against amino acids 125-189 mapping within an internal region of Nucleoredoxin of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nucleoredoxin (E-12) is available conjugated to agarose (sc-393748 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393748 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393748 PE), fluorescein (sc-393748 FITC), Alexa Fluor[®] 488 (sc-393748 AF488), Alexa Fluor[®] 546 (sc-393748 AF546), Alexa Fluor[®] 594 (sc-393748 AF594) or Alexa Fluor[®] 647 (sc-393748 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393748 AF680) or Alexa Fluor[®] 790 (sc-393748 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Nucleoredoxin (E-12) is recommended for detection of Nucleoredoxin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for Nucleoredoxin siRNA (h): sc-93857, Nucleoredoxin siRNA (m): sc-150094, Nucleoredoxin shRNA Plasmid (h): sc-93857-SH, Nucleoredoxin shRNA Plasmid (m): sc-150094-SH, Nucleoredoxin shRNA (h) Lentiviral Particles: sc-93857-V and Nucleoredoxin shRNA (m) Lentiviral Particles: sc-150094-V.

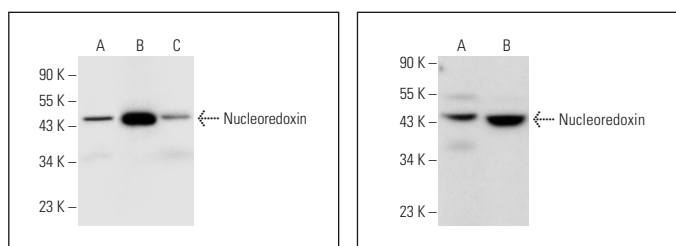
Molecular Weight of Nucleoredoxin: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human heart extract: sc-363763 or human liver extract: sc-363766.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Nucleoredoxin (E-12): sc-393748. Western blot analysis of Nucleoredoxin expression in HeLa whole cell lysate (A) and human heart (B) and human liver (C) tissue extracts.

Nucleoredoxin (E-12): sc-393748. Western blot analysis of Nucleoredoxin expression in HeLa (A) and F9 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Xue, X., et al. 2022. Ascorbic acid regulates mouse spermatogonial stem cell proliferation in a Wnt/ β -catenin/ROS signaling dependent manner. *Theriogenology* 184: 61-72.

STORAGE

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