

# Selenoprotein N (A-11): sc-365824

## BACKGROUND

Selenium is an essential trace element that is incorporated as selenocysteine into the primary structure of selenoproteins. Nutritional deficiency of selenium decreases selenoprotein concentrations and leads to pathologic conditions. Most of the known Selenoproteins are members of the glutathione peroxidase or iodothyronine deiodinase families. The Selenoprotein N glycoprotein localizes to the endoplasmic reticulum (ER) and contains selenocysteine at its active site. There are two isoforms associated with Selenoprotein N: isoform 1, the full-length transcript; and isoform 2, which lacks exon 3. Selenoprotein N is primarily expressed in skeletal muscle, brain, lung and placenta, but isoform 2 can also be detected in heart and stomach tissues. Mutations in *SEPN1*, the gene encoding for selenoprotein, cause multimincore disease and rigid spine muscular dystrophy.

## REFERENCES

1. Ferreira, A., et al. 2002. Mutations of the Selenoprotein N gene, which is implicated in rigid spine muscular dystrophy, cause the classical phenotype of multimincore disease: reassessing the nosology of early-onset myopathies. *Am. J. Hum. Genet.* 71: 739-749.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606210. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Petit, N., et al. 2003. Selenoprotein N: an endoplasmic reticulum glycoprotein expression pattern. *Hum. Mol. Genet.* 12: 1045-1053.
4. Venance, S.L., et al. 2005. Rigid spine muscular dystrophy due to *SEPN1* mutation presenting as cor pulmonale. *Neurology* 64: 395-396.

## CHROMOSOMAL LOCATION

Genetic locus: *SEPN1* (human) mapping to 1p36.11; Selenon (mouse) mapping to 4 D3.

## SOURCE

Selenoprotein N (A-11) is a mouse monoclonal antibody raised against amino acids 293-452 mapping within an internal region of Selenoprotein N 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.

Selenoprotein N (A-11) is available conjugated to agarose (sc-365824 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365824 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365824 PE), fluorescein (sc-365824 FITC), Alexa Fluor® 488 (sc-365824 AF488), Alexa Fluor® 546 (sc-365824 AF546), Alexa Fluor® 594 (sc-365824 AF594) or Alexa Fluor® 647 (sc-365824 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365824 AF680) or Alexa Fluor® 790 (sc-365824 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

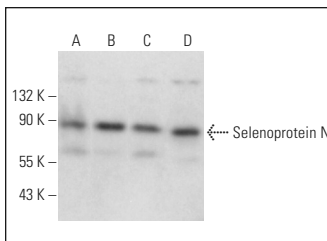
Selenoprotein N (A-11) is recommended for detection of Selenoprotein N of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 Selenoprotein N siRNA (h): sc-61518, Selenoprotein N siRNA (m): sc-61519, Selenoprotein N shRNA Plasmid (h): sc-61518-SH, Selenoprotein N shRNA Plasmid (m): sc-61519-SH, Selenoprotein N shRNA (h) Lentiviral Particles: sc-61518-V and Selenoprotein N shRNA (m) Lentiviral Particles: sc-61519-V.

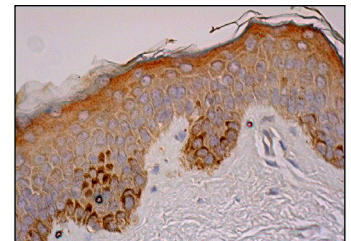
Molecular Weight of Selenoprotein N: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

## DATA



Selenoprotein N (A-11): sc-365824. Western blot analysis of Selenoprotein N expression in Hep G2 (A), HeLa (B), NTERA-2 cl.D1 (C) and c4 (D) whole cell lysates.



Selenoprotein N (A-11): sc-365824. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of epidermal cells.

## SELECT PRODUCT CITATIONS

1. Tsai, K.W., et al. 2016. Arm selection preference of microRNA-193a varies in breast cancer. *Sci. Rep.* 6: 28176.
2. Zhang, Z., et al. 2021. Selenium restores synaptic deficits by modulating NMDA receptors and Selenoprotein K in an Alzheimer's disease model. *Antioxid. Redox Signal.* 35: 863-884.
3. Noda, Y., et al. 2022. Regulation of A-to-I RNA editing and stop codon recoding to control selenoprotein expression during skeletal myogenesis. *Nat. Commun.* 13: 2503.
4. Li, Z., et al. 2022. Ribosome stalling during selenoprotein translation exposes a ferroptosis vulnerability. *Nat. Chem. Biol.* 18: 751-761.

## STORAGE

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

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