SANTA CRUZ BIOTECHNOLOGY, INC.

Selenoprotein N (C-12): sc-49496

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Seleno-protein 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 multiminicore disease and rigid spine muscular dystrophy.

REFERENCES

1. Ferreiro, A., et al. 2002. Mutations of the selenoprotein N gene, which is implicated in rigid spine muscular dystrophy, cause the classical phenotype of multiminicore 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. Tajsharghi, H., et al. 2005. Early onset myopathy with a novel mutation in the Selenoprotein N gene (SEPN1). Neuromuscul. Disord. 15: 299-302.
5. Venance, S.L., et al. 2005. Rigid spine muscular dystrophy due to SEPN1 mutation presenting as cor pulmonale. Neurology 64: 395-396.
6. D'Amico, A., et al. 2005. Two patients with "dropped head syndrome" due to mutations in LMNA or SEPN1 genes. Neuromuscul. Disord. 15: 521-524.

CHROMOSOMAL LOCATION

Genetic locus: SEPN1 (human) mapping to 1p36.11; Sepn1 (mouse) mapping to 4 D3.

SOURCE

Selenoprotein N (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Selenoprotein N 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-49496 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Selenoprotein N (C-12) is recommended for detection of Selenoprotein N isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Selenoprotein N (C-12) is also recommended for detection of Selenoprotein N isoforms 1 and 2 in additional species, including bovine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.