

Selenoprotein P (B-9): sc-376858

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. Selenoprotein P (SEPP1) is a major selenoprotein that is not a member of those families. It is an extracellular glycoprotein that is present in several isoforms and is the only selenoprotein known to contain multiple selenocysteine residues. Selenoprotein P is a heparin-binding protein that appears to be associated with endothelial cells and has been implicated as an oxidant defense in the extracellular space. Although there is evidence of several isoforms of the protein, all of them share the same amino-terminal sequence and therefore are likely products of the same gene. The gene which encodes Selenoprotein P maps to human chromosome 5p12.

CHROMOSOMAL LOCATION

Genetic locus: SEPP1 (human) mapping to 5p12; Sepp1 (mouse) mapping to 15 A1.

SOURCE

Selenoprotein P (B-9) is a mouse monoclonal antibody raised against amino acids 82-381 mapping at the C-terminus of Selenoprotein P of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Selenoprotein P (B-9) is available conjugated to agarose (sc-376858 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376858 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376858 PE), fluorescein (sc-376858 FITC), Alexa Fluor[®] 488 (sc-376858 AF488), Alexa Fluor[®] 546 (sc-376858 AF546), Alexa Fluor[®] 594 (sc-376858 AF594) or Alexa Fluor[®] 647 (sc-376858 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376858 AF680) or Alexa Fluor[®] 790 (sc-376858 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Selenoprotein P (B-9) is recommended for detection of Selenoprotein P 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).

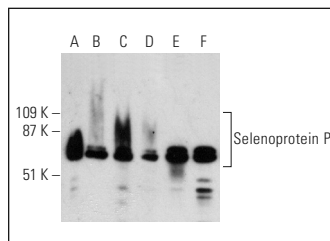
Suitable for use as control antibody for Selenoprotein P siRNA (h): sc-40930, Selenoprotein P siRNA (m): sc-40931, Selenoprotein P shRNA Plasmid (h): sc-40930-SH, Selenoprotein P shRNA Plasmid (m): sc-40931-SH, Selenoprotein P shRNA (h) Lentiviral Particles: sc-40930-V and Selenoprotein P shRNA (m) Lentiviral Particles: sc-40931-V.

Molecular Weight of Selenoprotein P: 57/45 kDa.

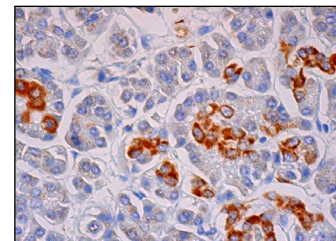
STORAGE

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

DATA



Selenoprotein P (B-9) HRP: sc-376858 HRP. Direct western blot analysis of Selenoprotein P expression in K-562 (A), HeLa (B), NIH/3T3 (C), c4 (D), Hep G2 (E) and Jurkat (F) whole cell lysates.



Selenoprotein P (B-9): sc-376858. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of subset of glandular cells.

SELECT PRODUCT CITATIONS

- Li, Y., et al. 2018. Characterization of Selenoprotein P cDNA of the Antarctic toothfish *Dissostichus mawsoni* and its role under cold pressure. *Gene* 647: 150-156.
- Akahoshi, N., et al. 2019. Dietary selenium deficiency or selenomethionine excess drastically alters organ selenium contents without altering the expression of most selenoproteins in mice. *J. Nutr. Biochem.* 69: 120-129.
- Seo, J.A., et al. 2020. Apolipoprotein J is a hepatokine regulating muscle glucose metabolism and Insulin sensitivity. *Nat. Commun.* 11: 2024.
- Chen, J., et al. 2021. Effects of selenomethionine on cell viability, selenoprotein expression and antioxidant function in porcine mammary epithelial cells. *Front. Nutr.* 8: 665855.
- Wu, H., et al. 2022. Supplementation with selenium attenuates autism-like behaviors and improves oxidative stress, inflammation and related gene expression in an autism disease model. *J. Nutr. Biochem.* 107: 109034.
- Ding, D., et al. 2022. Maternal organic selenium supplementation relieves intestinal endoplasmic reticulum stress in piglets by enhancing the expression of glutathione peroxidase 4 and Selenoprotein S. *Front. Nutr.* 9: 900421.
- Greenough, M.A., et al. 2022. Selective ferroptosis vulnerability due to familial Alzheimer's disease presenilin mutations. *Cell Death Differ.* 29: 2123-2136.
- Choi, J.A., et al. 2023. High-dose selenium induces ferroptotic cell death in ovarian cancer. *Int. J. Mol. Sci.* 24: 1918.
- Liang, X., et al. 2023. Selenium supplementation enhanced the expression of selenoproteins in hippocampus and played a neuroprotective role in LPS-induced neuroinflammation. *Int. J. Biol. Macromol.* E-published.

RESEARCH USE

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

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