

# Selenoprotein S (D-1): sc-365498

## 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 S, also known as VIMP or SELS, is a 189 amino acid single-pass membrane protein that localizes to the endoplasmic reticulum (ER) and contains a selenocysteine (Sec) residue at its active site. Interacting with Derlin-1 and VCP, Selenoprotein S is involved in the degradation of misfolded ER proteins, specifically participating in the transfer of misfolded proteins from the ER to the cytosol for subsequent proteasomal degradation. Aberrant expression of Selenoprotein S is associated with diabetes, cardiovascular disease and rheumatoid arthritis.

## CHROMOSOMAL LOCATION

Genetic locus: VIMP (human) mapping to 15q26.3; Vimp (mouse) mapping to 7 C.

## SOURCE

Selenoprotein S (D-1) is a mouse monoclonal antibody raised against amino acids 1-189 of Selenoprotein S of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Selenoprotein S (D-1) is available conjugated to agarose (sc-365498 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365498 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365498 PE), fluorescein (sc-365498 FITC), Alexa Fluor® 488 (sc-365498 AF488), Alexa Fluor® 546 (sc-365498 AF546), Alexa Fluor® 594 (sc-365498 AF594) or Alexa Fluor® 647 (sc-365498 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365498 AF680) or Alexa Fluor® 790 (sc-365498 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Selenoprotein S (D-1) is recommended for detection of Selenoprotein S 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Selenoprotein S siRNA (h): sc-90187, Selenoprotein S siRNA (m): sc-106542, Selenoprotein S shRNA Plasmid (h): sc-90187-SH, Selenoprotein S shRNA Plasmid (m): sc-106542-SH, Selenoprotein S shRNA (h) Lentiviral Particles: sc-90187-V and Selenoprotein S shRNA (m) Lentiviral Particles: sc-106542-V.

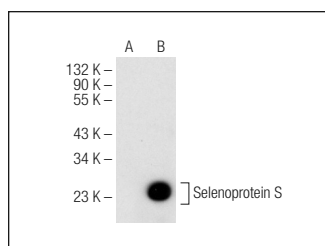
Molecular Weight of Selenoprotein S: 21 kDa.

Positive Controls: Selenoprotein S (m): 293T Lysate: sc-127522.

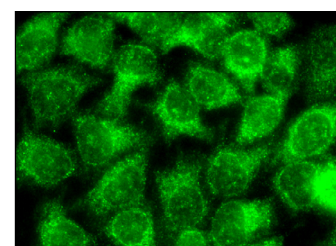
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Selenoprotein S (D-1): sc-365498. Western blot analysis of Selenoprotein S expression in non-transfected: sc-117752 (A) and mouse Selenoprotein S transfected: sc-127522 (B) 293T whole cell lysates.



Selenoprotein S (D-1): sc-365498. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Qin, H.S., et al. 2016. Paclitaxel inhibits Selenoprotein S expression and attenuates endoplasmic reticulum stress. *Mol. Med. Rep.* 13: 5118-5124.
- 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.
- Zhang, F., et al. 2021. SAA1 is transcriptionally activated by STAT3 and accelerates renal interstitial fibrosis by inducing endoplasmic reticulum stress. *Exp. Cell Res.* 408: 112856.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.