

Selenoprotein R (H-94): sc-67072

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. SECIS elements form stem-loop structures in the 3' untranslated regions (UTR) of eukaryotic mRNAs that encode selenoproteins. The Selenoprotein W SECIS elements contain an additional highly conserved base-paired stem that may prevent inappropriate selenocysteine incorporation at the UGA stop codons. Selenoprotein R, also designated methionine-R-sulfoxide reductase or Selenoprotein X1, is a zinc binding protein. The gene encoding for Selenoprotein R contains selenocysteine, which is encoded by the usual stop codon TGA at the active site. Selenoprotein R may play a role in protection against oxidative stress.

REFERENCES

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- Hill, K.E., et al. 1996. Human Selenoprotein P gene maps to 5q31. *Genomics* 36: 550-551.
- Kryukov, G.V., et al. 1999. New mammalian selenocysteine-containing proteins identified with an algorithm that searches for selenocysteine insertion sequence elements. *J. Biol. Chem.* 274: 33888-33897.
- Kryukov, G.V., et al. 2002. Selenoprotein R is a zinc-containing stereospecific methionine sulfoxide reductase. *Proc. Natl. Acad. Sci. USA* 99: 4245-4250.
- Gromer, S., et al. 2005. Human selenoproteins at a glance. *Cell. Mol. Life Sci.* 62: 2414-2437.

CHROMOSOMAL LOCATION

Genetic locus: MSRB1 (human) mapping to 16p13.3; Sepx1 (mouse) mapping to 17 A3.3.

SOURCE

Selenoprotein R (H-94) is a rabbit polyclonal antibody raised against amino acids 1-94 mapping at the N-terminus of Selenoprotein R 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.

RESEARCH USE

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

APPLICATIONS

Selenoprotein R (H-94) is recommended for detection of Selenoprotein R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Selenoprotein R (H-94) is also recommended for detection of Selenoprotein R in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Selenoprotein R siRNA (h): sc-45574, Selenoprotein R siRNA (m): sc-45575, Selenoprotein R shRNA Plasmid (h): sc-45574-SH, Selenoprotein R shRNA Plasmid (m): sc-45575-SH, Selenoprotein R shRNA (h) Lentiviral Particles: sc-45574-V and Selenoprotein R shRNA (m) Lentiviral Particles: sc-45575-V.

Molecular Weight of Selenoprotein R: 12 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
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Try **Selenoprotein R (QA-V7): sc-135558**, our highly recommended monoclonal alternative to Selenoprotein R (H-94).