

SBP-2 (A-15): sc-13418

BACKGROUND

Eukaryotes require a selenocysteine (Sec) insertion sequence (SECIS) element in the 3' untranslated region of the mRNA to decode the UGA codon as Sec. SECIS-binding protein 2 (SBP2) specifically binds selenoprotein mRNAs(2) to form a functional complex and is essential for the insertion of Sec into selenoproteins. Purified SBP2 interacts specifically with the SECIS element in the phospholipid hydroperoxide glutathione peroxidase mRNA. SBP2 shows binding activity in the liver and testis as well as hepatoma cells. SBP2 binds to a conserved RNA binding domain shared with several ribosomal proteins and eukaryotic translation termination release factor 1. A second domain located N-terminal to the RNA binding domain required for Sec insertion allows SBP2 to stably associate with the ribosomal fraction of cells. SBP2 preferentially stimulates incorporation directed by the selenoprotein P and phospholipid hydroperoxide glutathione peroxidase SECIS elements. SBP2 may have a distinct function in selecting the ribosomes for Sec insertion.

REFERENCES

- Berry, M.J., Banu, L., Chen, Y.Y., Mandel, S.J., Kieffer, J.D., Harney, J.W. and Larsen, P.R. 1991. Recognition of UGA as a selenocysteine codon in type 1 deiodinase requires sequencs in the 3' untranslated region. *Nature* 353: 273-276.
- Lesoon, A., Mehta, A., Singh, R., Chisolm, G.M. and Driscoll, D.M. 1997. An RNA-binding protein recognizes a mammalian selenocysteine insertion sequence element required for cotranslational incorporation of selenocysteine. *Mol. Cell. Biol.* 17: 1977-1985.
- Copeland P.R. and Driscoll D.M. 1999. Purification, redox sensitivity, and RNA binding properties of SECIS-binding protein 2, a protein involved in selenoprotein biosynthesis. *J. Biol. Chem.* 274: 25447-25454.
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- Low, S.C., Grundner-Culemann, E., Harney, J.W. and Berry, M.J. 2000. SECIS-SBP2 interactions dictate selenocysteine incorporation efficiency and selenoprotein hierarchy. *EMBO J.* 19: 6882-6890.

CHROMOSOMAL LOCATION

Genetic locus: Secisbp2 (mouse) mapping to 13 A5.

SOURCE

SBP-2 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SBP-2 of rat 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-13418 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SBP-2 (A-15) is recommended for detection of SBP-2 of mouse and rat 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).

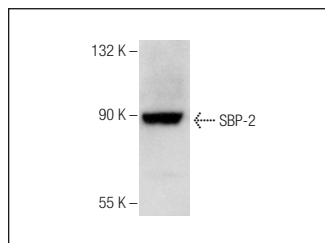
Suitable for use as control antibody for SBP-2 siRNA (m): sc-153236, SBP-2 shRNA Plasmid (m): sc-153236-SH and SBP-2 shRNA (m) Lentiviral Particles: sc-153236-V.

Positive Controls: Mouse testis extract: sc-2405.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SBP-2 (A-15): sc-13418. Western blot analysis of SBP-2 expression in mouse testis tissue extract.

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.



Try **SBP-2 (C-10): sc-393651**, our highly recommended monoclonal alternative to SBP-2 (A-15).