SANTA CRUZ BIOTECHNOLOGY, INC.

SBP-2 (C-10): sc-393651

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (SBP-2) specifically binds selenoprotein mRNAs to form a functional complex and is essential for the insertion of Sec into selenoproteins. Purified SBP-2 interacts specifically with the SECIS element in the phospholipid hydroperoxide glutathione peroxidase mRNA. SBP-2 shows binding activity in the liver and testis as well as hepatoma cells. SBP-2 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 SBP-2 to stably associate with the ribosomal fraction of cells. SBP-2 preferentially stimulates incorporation directed by the Selenoprotein P and phospholipid hydroperoxide glutathione peroxidase SECIS elements. SBP-2 may have a distinct function in selecting the ribosomes for Sec insertion.

REFERENCES

1. Berry, M.J., et al. 1991. Recognition of UGA as a selenocysteine codon in type 1 deiodinase requires sequencs in the 3' untranslated region. Nature 353: 273-276.
2. Lesoon, A., et al. 1997. An RNA-binding protein recognizes a mammalian selenocysteine insertion sequence element required for cotranslational incorporation of selenocysteine. Mol. Cell. Biol. 17: 1977-1985.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: SECISBP2 (human) mapping to 9q22.2; Secisbp2 (mouse) mapping to 13 A5.

SOURCE

SBP-2 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-19 at the N-terminus of SBP-2 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SBP-2 (C-10) is available conjugated to agarose (sc-393651 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393651 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393651 PE), fluorescein (sc-393651 FITC), Alexa Fluor® 488 (sc-393651 AF488), Alexa Fluor® 546 (sc-393651 AF546), Alexa Fluor® 594 (sc-393651 AF594) or Alexa Fluor® 647 (sc-393651 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393651 AF680) or Alexa Fluor® 790 (sc-393651 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393651 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SBP-2 (C-10) is recommended for detection of SBP-2 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).

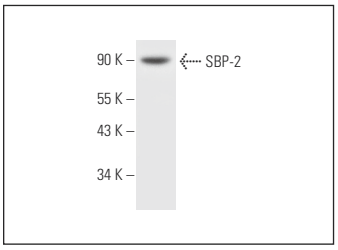
Suitable for use as control antibody for SBP-2 siRNA (h): sc-106885, SBP-2 siRNA (m): sc-153236, SBP-2 shRNA Plasmid (h): sc-106885-SH, SBP-2 shRNA Plasmid (m): sc-153236-SH, SBP-2 shRNA (h) Lentiviral Particles: sc-106885-V and SBP-2 shRNA (m) Lentiviral Particles: sc-153236-V.

Positive Controls: F9 cell lysate: sc-2245 or PC-3 cell lysate: sc-2220.

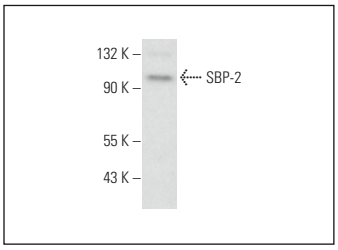
RECOMMENDED SUPPORT REAGENTS

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



SBP-2 (C-10): sc-393651. Western blot analysis of SBP-2 expression in F9 whole cell lysate.



SBP-2 (C-10): sc-393651. Western blot analysis of SBP-2 expression in PC-3 whole cell lysate.

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 for detailed protocols and support products.