

# SSB-2 siRNA (m): sc-153837

## BACKGROUND

Members of the suppressor of cytokine signaling (SOCS) family of proteins contain C-terminal regions of homology called the SOCS box, which serves to couple SOCS proteins and their binding partners with the E3 complex, thereby mediating protein degradation. Several other families of proteins also contain SOCS boxes, but differ from the SOCS proteins in the type of domain they contain upstream of the SOCS box. SSB-2 (SprA/ryanodine (SPRY) receptor domain-containing SOCS box protein 2), also known as GGRCC9 (gene-rich cluster protein C9), SPSB2 or MGC2519, is a cytoplasmic protein belonging to the SPSB family of proteins that contain a central SPRY domain and a C-terminal SOCS box. The SPRY domain is believed to be a protein-protein interaction motif. Members of the SPSB family are capable of interacting with Met (a receptor for hepatocyte growth factors (HGFs)), and SSB-1 is known to promote HGF signaling. SSB-1, SSB-2 and SSB-4 are also able to interact with PAR4 (prostate apoptosis response protein 4). Mutations in the genes encoding SPSB proteins are associated with several human diseases.

## REFERENCES

- Hilton, D.J., et al. 1998. Twenty proteins containing a C-terminal SOCS box form five structural classes. *Proc. Natl. Acad. Sci. USA* 95: 114-119.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611658. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Wang, D., et al. 2005. The SPRY domain-containing SOCS box protein 1 (SSB-1) interacts with MET and enhances the hepatocyte growth factor-induced Erk-Elk-1-serum response element pathway. *J. Biol. Chem.* 280: 16393-16401.

## CHROMOSOMAL LOCATION

Genetic locus: Spsb2 (mouse) mapping to 6 F2.

## PRODUCT

SSB-2 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SSB-2 shRNA Plasmid (m): sc-153837-SH and SSB-2 shRNA (m) Lentiviral Particles: sc-153837-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

SSB-2 siRNA (m) is recommended for the inhibition of SSB-2 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

SSB-2 (32-K): sc-100863 is recommended as a control antibody for monitoring of SSB-2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SSB-2 gene expression knockdown using RT-PCR Primer: SSB-2 (m)-PR: sc-153837-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

- Wang, T., et al. 2018. HSP 90 inhibition renders iNOS aggregation and the clearance of iNOS aggregates by proteasomes requires SPSB2. *Free Radic. Biol. Med.* 117: 90-98.

## 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.