## SANTA CRUZ BIOTECHNOLOGY, INC.

# STAMBP siRNA (h): sc-94512



#### BACKGROUND

STAMBP (STAM binding protein), also known as AMSH, is a 424 amino acid protein belonging to the peptidase M67C family. Ubiquitously expressed, STAMBP functions as a zinc metalloprotease that specifically cleaves "Lys-63"-linked polyubiquitin chains. STAMBP is able to oppose the ubiquitin-dependent sorting of receptors to lysosomes. STAMBP may play a role in signal transduction for cell growth and Myc induction mediated by IL-2 and GM-CSF. It is suggested that STAMBP potentiates BMP (bone morphogenetic protein) signaling by antagonizing the inhibitory action of Smad6 and Smad7. STAMBP consists of the JAMM motif, which is essential for the protease activity, and is inhibited by N-ethylmaleimide.

## REFERENCES

- Itoh, F., et al. 2001. Promoting bone morphogenetic protein signaling through negative regulation of inhibitory Smads. EMBO J. 20: 4132-4142.
- McCullough, J., et al. 2004. AMSH is an endosome-associated ubiquitin isopeptidase. J. Cell Biol. 166: 487-492.
- Li, H. and Seth, A. 2004. An RNF11: Smurf2 complex mediates ubiquitination of the AMSH protein. Oncogene 23: 1801-1808.
- Herrera-Vigenor, F., et al. 2006. AMSH regulates calcium-sensing receptor signaling through direct interactions. Biochem. Biophys. Res. Commun. 347: 924-930.
- McCullough, J., et al. 2006. Activation of the endosome-associated ubiquitin isopeptidase AMSH by STAM, a component of the multivesicular bodysorting machinery. Curr. Biol. 16: 160-165.
- Nakamura, M., et al. 2006. Clathrin anchors deubiquitinating enzymes, AMSH and AMSH-like protein, on early endosomes. Genes Cells 11: 593-606.
- 7. Agromayor, M. and Martin-Serrano, J. 2006. Interaction of AMSH with ESCRT-III and deubiquitination of endosomal cargo. J. Biol. Chem. 281: 23083-23091.
- Ma, Y.M., et al. 2007. Targeting of AMSH to endosomes is required for epidermal growth factor receptor degradation. J. Biol. Chem. 282: 9805-9812.

#### CHROMOSOMAL LOCATION

Genetic locus: STAMBP (human) mapping to 2p13.1.

#### PRODUCT

STAMBP siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs 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 STAMBP shRNA Plasmid (h): sc-94512-SH and STAMBP shRNA (h) Lentiviral Particles: sc-94512-V as alternate gene silencing products.

For independent verification of STAMBP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94512A, sc-94512B and sc-94512C.

#### 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**

STAMBP siRNA (h) is recommended for the inhibition of STAMBP expression in human 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

STAMBP (H-4): sc-271641 is recommended as a control antibody for monitoring of STAMBP 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<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### **RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor STAMBP gene expression knockdown using RT-PCR Primer: STAMBP (h)-PR: sc-94512-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

#### **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.