

Ran BP-10 siRNA (m): sc-152695

BACKGROUND

Ran BP-10 (RAN binding protein 10) is a 620 amino acid protein that contains one LisH domain, one CTLH domain and one SPRY domain. Expressed in a broad range of tissues with highest levels in skeletal muscle, Ran BP-10 functions as an adaptor protein that is able to couple membrane receptors to intracellular signaling pathways and may play a role in microtubule regulation. The gene encoding Ran BP-10 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Moore, J.D. 2001. The Ran-GTPase and cell-cycle control. *Bioessays* 23: 77-85.
2. Wang, D., et al. 2002. Activation of Ras/Erk pathway by a novel MET-interacting protein RanBPM. *J. Biol. Chem.* 277: 36216-36222.
3. Wang, D., et al. 2004. A novel MET-interacting protein shares high sequence similarity with RanBPM, but fails to stimulate MET-induced Ras/Erk signaling. *Biochem. Biophys. Res. Commun.* 313: 320-326.
4. 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.
5. Woo, J.S., et al. 2006. Structural and functional insights into the B30.2/SPRY domain. *EMBO J.* 25: 1353-1363.
6. Harada, N., et al. 2008. RanBP10 acts as a novel coactivator for the androgen receptor. *Biochem. Biophys. Res. Commun.* 368: 121-125.
7. Schulze, H., et al. 2008. RanBP10 is a cytoplasmic guanine nucleotide exchange factor that modulates noncentrosomal microtubules. *J. Biol. Chem.* 283: 14109-14119.
8. Yudin, D. and Fainzilber, M. 2009. Ran on tracks-cytoplasmic roles for a nuclear regulator. *J. Cell Sci.* 122: 587-593.

CHROMOSOMAL LOCATION

Genetic locus: Ranbp10 (mouse) mapping to 8 D3.

PRODUCT

Ran BP-10 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ran BP-10 shRNA Plasmid (m): sc-152695-SH and Ran BP-10 shRNA (m) Lentiviral Particles: sc-152695-V as alternate gene silencing products.

For independent verification of Ran BP-10 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152695A, sc-152695B and sc-152695C.

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

APPLICATIONS

Ran BP-10 siRNA (m) is recommended for the inhibition of Ran BP-10 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 μ M in 66 μ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ran BP-10 gene expression knockdown using RT-PCR Primer: Ran BP-10 (m)-PR: sc-152695-PR (20 μ 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.