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# TBKBP1 siRNA (m): sc-154119

## BACKGROUND

TBKBP1 (TBK1 binding protein 1), also known as SINTBAD, is a 615 amino acid adaptor protein that binds to TBK1 (TANK binding kinase) and IKK- $\epsilon$  (inhibitor of  $\kappa$  light polypeptide gene enhancer in B cells, kinase  $\epsilon$ ). Involved in innate antiviral immunity and the TNF $\alpha$ /NF $\kappa$ B pathway, TBKBP1 exists as a ubiquitously expressed homodimer found at highest levels in ovary. Lower levels of TBKBP1 are found in brain, testis, lung, heart, kidney, liver and smooth muscle. TBKBP1 exists as two alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 17q21.32. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes, including two key tumor suppressor genes, p53 and BRCA1. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome.

## REFERENCES

- Hupp, T.R., et al. 1992. Regulation of the specific DNA binding function of p53. *Cell* 71: 875-886.
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- Ryzhakov, G. and Randow, F. 2007. SINTBAD, a novel component of innate antiviral immunity, shares a TBK1-binding domain with NAP1 and TANK. *EMBO J.* 26: 3180-3190.
- Mirzayans, R., et al. 2010. Single-cell analysis of p16<sup>INK4a</sup> and p21<sup>WAF1</sup> expression suggests distinct mechanisms of senescence in normal human and Li-Fraumeni syndrome fibroblasts. *J. Cell. Physiol.* 223: 57-67.

## CHROMOSOMAL LOCATION

Genetic locus: *Tbkbp1* (mouse) mapping to 11 D.

## PRODUCT

TBKBP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TBKBP1 shRNA Plasmid (m): sc-154119-SH and TBKBP1 shRNA (m) Lentiviral Particles: sc-154119-V as alternate gene silencing products.

For independent verification of TBKBP1 (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-154119A, sc-154119B and sc-154119C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

TBKBP1 siRNA (m) is recommended for the inhibition of TBKBP1 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TBKBP1 gene expression knockdown using RT-PCR Primer: TBKBP1 (m)-PR: sc-154119-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.