SANTA CRUZ BIOTECHNOLOGY, INC.

KBTBD13 siRNA (m): sc-140366

BACKGROUND

The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C_2H_2-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. KBTBD13 (kelch repeat and BTB (POZ) domain containing 13), also known as NEM6, is a 458 amino acid cytoplasmic protein that contains one BTB (POZ) domain and five kelch repeats. Expressed in skeletal muscle, lung and heart, KBTBD13 is encoded by a gene that maps to human chromosome 15q22.31 and mouse chromosome 9 C. A heterozygous mutation the gene encoding KBTBD13 is the cause of nemaline myopathy type 6 (NEM6), an autosomal dominant skeletal muscle disorder that begins during childhood.

REFERENCES

1. Bardwell, V.J., et al. 1994. The POZ domain: a conserved protein-protein interaction motif. Genes Dev. 8: 1664-1677.
2. Zollman, S., et al. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. Proc. Natl. Acad. Sci. USA 91: 10717-10721.
3. Gommans, I.M., et al. 2002. A new phenotype of autosomal dominant nemaline myopathy. Neuromuscul. Disord. 12: 13-18.
4. Gommans, I.M., et al. 2003. A locus on chromosome 15q for a dominantly inherited nemaline myopathy with core-like lesions. Brain 126: 1545-1551.
5. Zody, M.C., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. Nature 440: 671-675.
6. Sambuughin, N., et al. 2010. Dominant mutations in KBTBD13, a member of the BTB/Kelch family, cause nemaline myopathy with cores. Am. J. Hum. Genet. 87: 842-847.
7. Olive, M., et al. 2010. Nemaline myopathy type 6: clinical and myopathological features. Muscle Nerve 42: 901-907.

CHROMOSOMAL LOCATION

Genetic locus: Kbtbd13 (mouse) mapping to 9 C.

PRODUCT

KBTBD13 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KBTBD13 shRNA Plasmid (m): sc-140366-SH and KBTBD13 shRNA (m) Lentiviral Particles: sc-140366-V as alternate gene silencing products.

For independent verification of KBTBD13 (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-140366A, sc-140366B and sc-140366C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

KBTBD13 siRNA (m) is recommended for the inhibition of KBTBD13 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 µM in 66 µl. 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 KBTBD13 gene expression knockdown using RT-PCR Primer: KBTBD13 (m)-PR: sc-140366-PR (20 µl). 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 for detailed protocols and support products.