SANTA CRUZ BIOTECHNOLOGY, INC.

Six5 siRNA (m): sc-63035

BACKGROUND

Six5 (homeobox protein Six5), also known as SIX5, BOR2 or DMAHP (DM locus-associated homeodomain protein), is a transcription factor that is expressed in various structures of the adult eye. Localized to the cytoplasm in early development and to the nucleus in the later stages of development, Six5 is involved in regulation of organogenesis and in maintenance of retinal formation. Six5 is able to bind the 5'-TCA[AG][AG]TTNC-3' DNA sequence found in the myogenin and IGFBP5 promoters and, through this binding, can control transcription of the associated mRNA. Six5 is regulated via association with DACH1 (dachshund homolog 1) and is coactivated by the EYA (eyes absent) proteins. Defects in the gene encoding Six5 are the cause of branchio-oto-renal syndrome type 2 (BOR2), an autosomal disorder characterized by hearing loss, a deep overbite and myopia. Two isoforms exist due to alternative splicing events.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Six5 (mouse) mapping to 7 A3.

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.

PRODUCT

Six5 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 Six5 shRNA Plasmid (m): sc-63035-SH and Six5 shRNA (m) Lentiviral Particles: sc-63035-V as alternate gene silencing products.

For independent verification of Six5 (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-63035A, sc-63035B and sc-63035C.

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

Six5 siRNA (m) is recommended for the inhibition of Six5 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 Six5 gene expression knockdown using RT-PCR Primer: Six5 (m)-PR: sc-63035-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.