SANTA CRUZ BIOTECHNOLOGY, INC.

VAX2 siRNA (m): sc-76892

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The Power to Question

BACKGROUND

VAX2 (ventral anterior homeobox 2) is a 290 amino acid homeobox protein that is expressed in the ventral portion of the early developing retina. Localized to the nucleus, VAX2 plays a crucial role in development of the eye, particularly in the specification of the ventral optic vesicle and in establishment of a correct dorsoventral pattern. VAX2 acts as a transcription factor with VAX1 to cooperatively regulate retinal differentiation, neuroepithelial cell proliferation and axial polarization in the retina. Together, VAX1 and VAX2 repress transcription of Pax-6, a strong inducer of retinal development. Once Pax-6 is repressed, retinal differentiation slows, thus allowing for proper development of the optic nerve. VAX2 contains one homeobox DNA-bindng domain and belongs to the EMX homeobox family of proteins.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Vax2 (mouse) mapping to 6 C3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

VAX2 siRNA (m) is a pool of 2 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 VAX2 shRNA Plasmid (m): sc-76892-SH and VAX2 shRNA (m) Lentiviral Particles: sc-76892-V as alternate gene silencing products.

For independent verification of VAX2 (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-76892A and sc-76892B.

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

VAX2 siRNA (m) is recommended for the inhibition of VAX2 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.

GENE EXPRESSION MONITORING

VAX2 (VAX2A8F12): sc-81422 is recommended as a control antibody for monitoring of VAX2 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor VAX2 gene expression knockdown using RT-PCR Primer: VAX2 (m)-PR: sc-76892-PR (20 µl). 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.