SANTA CRUZ BIOTECHNOLOGY, INC.

# DABP siRNA (h): sc-97554

## BACKGROUND

DABP (D-boxBP, D site-binding protein, Albumin D-element-binding protein, TAXREB302) is a 325 amino acid protein that belongs to the bZIP family (PAR subfamily) and contains one bZIP domain. It functions as a transcriptional activator that recognizes and binds to the promoter sequence 5'-RTTAYGTAAY-3' found in the promoter region of genes such as albumin, CYP2A4 and CYP2A5. It is not essential for circadian rhythm generation, however, it does help modulate important clock output genes. DABP may be a direct target for regulation by the circadian pacemaker component Clock. Mice deficient for bZip PAR gene products (such as DABP, EPAS-1 and TEF) are highly susceptible to generalized spontaneous and audiogenic epilepsies. This is likely because bZip PAR targets the gene that encodes pyridoxal kinase. This kinase converts vitamin B6 derivatives into pyridoxal phosphate (PLP) which is a coenzyme for amino acid and neurotransmitter metabolism.

## REFERENCES


1. Szpirer, C., et al. 1992. Chromosomal localization in man and rat of the genes encoding the liver-enriched transcription factors C/EBP, DBP, and HNF1/LFB-1 (CEBP, DBP, and transcription factor 1, TCF1, respectively) and of the hepatocyte growth factor/scatter factor gene (HGF). Genomics 13: 293-300.
2. Khatib, Z.A., et al. 1995. Chromosomal localization and cDNA cloning of the human DBP and TEF genes. Genomics 23: 344-351.
3. Shutler, G., et al. 1996. Genomic structure of the human D-site binding protein (DBP) gene. Genomics 34: 334-339.
4. Brown, S.A., et al. 1999. The ins and outs of circadian timekeeping. Curr. Opin. Genet. Dev. 9: 588-594.
5. Schrem, H., et al. 2004. Liver-enriched transcription factors in liver function and development. Part II: the C/EBPs and D site-binding protein in cell cycle control, carcinogenesis, circadian gene regulation, liver regeneration, apoptosis, and liver-specific gene regulation. Pharmacol. Rev. 56: 291-330.
6. Gachon, F., et al. 2004. The loss of circadian PAR bZip transcription factors results in epilepsy. Genes Dev. 18: 1397-1412.
7. Gachon, F., et al. 2006. The circadian PAR-domain basic leucine zipper transcription factors DBP, TEF, and HLF modulate basal and inducible xenobiotic detoxification. Cell Metab. 4: 25-36.


## CHROMOSOMAL LOCATION

Genetic locus: DBP (human) mapping to 19q13.3.

## PRODUCT

DABP siRNA (h) is a target-specific 19-25 nt siRNA 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 DABP shRNA Plasmid (h): sc-97554-SH and DABP shRNA (h) Lentiviral Particles: sc-97554-V as alternate gene silencing products.

## 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

DABP siRNA (h) is recommended for the inhibition of DABP expression in human 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

DABP (H-6): sc-390146 is recommended as a control antibody for monitoring of DABP 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DABP gene expression knockdown using RT-PCR Primer: DABP (h)-PR: sc-97554-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.

## PROTOCOLS

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