

# POGK siRNA (m): sc-106426

## BACKGROUND

POGK (pogo transposable element with KRAB domain), also known as BASS2 or LST003, is a 609 amino acid protein that may be a member of the DNA-mediated transposon family. Localizing to the nucleus, POGK contains an N-terminal KRAB (Krüppel-associated box) domain, an HTH CENP-B-type (helix-turn-helix and centromere protein B-type) DNA-binding domain and a C-terminal DDE domain. The KRAB domain is a potent transcriptional repression motif and is approximately 75 amino acids in length. DDE domains are catalytic motifs consisting of two conserved aspartic acids separated by 70 amino acids and a conserved glutamic acid that is further separated by another 35 amino acids. DDE domains are characteristic of DNA transposases and retroviral integrases.

## REFERENCES

- Andersson, B., et al. 1996. A "double adaptor" method for improved shotgun library construction. *Anal. Biochem.* 236: 107-113.
- Yu, W., et al. 1997. Large-scale concatenation cDNA sequencing. *Genome Res.* 7: 353-358.
- Greenhalf, W., et al. 1999. A selection system for human apoptosis inhibitors using yeast. *Yeast* 15: 1307-1321.
- Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 143-150.
- Sarkar, A., et al. 2003. Molecular evolutionary analysis of the widespread piggyBac transposon family and related "domesticated" sequences. *Mol. Genet. Genomics* 270: 173-180.
- Rivieccio, V., et al. 2005. Expression, purification and partial characterization of the Krüppel-associated box (KRAB) from the human ZNF2 protein. *Protein Pept. Lett.* 12: 527-532.
- Buchner, J.M., et al. 2005. Piv site-specific invertase requires a DEDD motif analogous to the catalytic center of the RuvC Holliday junction resolvases. *J. Bacteriol.* 187: 3431-3437.
- Peng, H., et al. 2007. The structurally disordered KRAB repression domain is incorporated into a protease resistant core upon binding to KAP-1-RBCC domain. *J. Mol. Biol.* 370: 269-289.

## CHROMOSOMAL LOCATION

Genetic locus: *Pogk* (mouse) mapping to 1 H2.3.

## PRODUCT

POGK 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 POGK shRNA Plasmid (m): sc-106426-SH and POGK shRNA (m) Lentiviral Particles: sc-106426-V as alternate gene silencing products.

For independent verification of POGK (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-106426A, sc-106426B and sc-106426C.

## 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

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

## GENE EXPRESSION MONITORING

POGK (5Q13): sc-100648 is recommended as a control antibody for monitoring of POGK 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 POGK gene expression knockdown using RT-PCR Primer: POGK (m)-PR: sc-106426-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.