SANTA CRUZ BIOTECHNOLOGY, INC.

Popeye 2 siRNA (h): sc-62840

BACKGROUND

Popeye 2, also known as POPDC2 (Popeye domain-containing 2) or POP2, is a 364 amino acid multi-pass membrane protein belonging to the popeye (POP) family. Members of the POP family contain three potential transmembrane domains and are preferentially expressed in skeletal and cardiac muscle. Their C-termini localize to the cytoplasm and contain a highly conserved protein domain named the Popeye domain. The Popeye domain is believed to mediate protein homodimerization, suggesting a function for POP family members as adhesion proteins. Popeye 2 shows highest levels of expression in the heart (myocardium) but can also be found at low levels in skeletal muscle. Popeye 2 is the predominant POP protein expressed in heart suggesting that it may be a key player in the development of the heart.

REFERENCES

1. Andree, B., et al. 2000. Isolation and characterization of the novel popeye gene family expressed in skeletal muscle and heart. Dev. Biol. 223: 371-382.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605823. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Breher, S.S., et al. 2004. Popeye domain containing gene 2 (Popdc2) is a myocyte-specific differentiation marker during chick heart development. Dev. Dyn. 229: 695-702.
4. Brand, T. 2005. The Popeye domain-containing gene family. Cell Biochem. Biophys. 43: 95-103.
5. Osler, M.E., et al. 2006. Bves, a member of the Popeye domain-containing gene family. Dev. Dyn. 235: 586-593.
6. Torlopp, A., et al. 2006. Comparative analysis of mRNA and protein expression of Popdc1 (Bves) during early development in the chick embryo. Dev. Dyn. 235: 691-700.
7. Parnes, D., et al. 2007. The Popdc gene family in the rat: molecular cloning, characterization and expression analysis in the heart and cultured cardiomyocytes. Biochim. Biophys. Acta 1769: 586-592.

CHROMOSOMAL LOCATION

Genetic locus: POPDC2 (human) mapping to 3q13.33.

PRODUCT

Popeye 2 siRNA (h) 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 Popeye 2 shRNA Plasmid (h): sc-62840-SH and Popeye 2 shRNA (h) Lentiviral Particles: sc-62840-V as alternate gene silencing products.

For independent verification of Popeye 2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62840A, sc-62840B and sc-62840C.

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

Popeye 2 siRNA (h) is recommended for the inhibition of Popeye 2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Popeye 2 gene expression knockdown using RT-PCR Primer: Popeye 2 (h)-PR: sc-62840-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.