SANTA CRUZ BIOTECHNOLOGY, INC.

Doc2g siRNA (m): sc-143133

BACKGROUND

Initially identified in protein kinase C (PKC), C2 domains contain roughly 130 amino acid residues which enhance phospholipid binding in either a calcium-dependent or calcium-independent manner. C2 domains are found in a multitude of eukaryotic signalling proteins and are utilized for a variety of functions, including vesicular trafficking, protein phosphorylation, generation of lipid-second messengers, GTPase activation and signal transduction. Doc2g (double C2, γ) is a 387 amino acid protein that contains two C2 domains and is thought to play a role in vesicular trafficking. Ubiquitously expressed but found at highest levels in heart, Doc2g acts as an effector for Munc13-1 and is encoded by a gene that maps to mouse chromosome 19 A. Doc2g does not bind phospholipids or calcium *in vitro*.

REFERENCES

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2. Ponting, C.P., et al. 1996. Extending the C2 domain family: C2s in PKCs δ, ε, η, θ, phospholipases, GAPs, and perforin. Protein Sci. 5: 162-166.
3. Nalefski, E.A., et al. 1996. The C2 domain calcium-binding motif: structural and functional diversity. Protein Sci. 5: 2375-2390.
4. Rizo, J., et al. 1998. C2-domains, structure and function of a universal Ca^{2+}-binding domain. J. Biol. Chem. 273: 15879-15882.
5. Fukuda, M., et al. 2000. Doc2γ, a third isoform of double C2 protein, lacking calcium-dependent phospholipid binding activity. Biochem. Biophys. Res. Commun. 276: 626-632.
6. Duncan, R.R., et al. 2000. Double C2 protein. A review. Biochimie 82: 421-426.
7. Cho, W., et al. 2006. Membrane binding and subcellular targeting of C2 domains. Biochim. Biophys. Acta 1761: 838-849.
8. Friedrich, R., et al. 2010. DOC2B, C2 domains, and calcium: A tale of intricate interactions. Mol. Neurobiol. 41: 42-51.

CHROMOSOMAL LOCATION

Genetic locus: Doc2g (mouse) mapping to 19 A.

PRODUCT

Doc2g siRNA (m) 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 Doc2g shRNA Plasmid (m): sc-143133-SH and Doc2g shRNA (m) Lentiviral Particles: sc-143133-V as alternate gene silencing products.

PROTOCOLS

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

Doc2g siRNA (m) is recommended for the inhibition of Doc2g 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 Doc2g gene expression knockdown using RT-PCR Primer: Doc2g (m)-PR: sc-143133-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.