

DPPX siRNA (m): sc-60549

BACKGROUND

Dipeptidyl peptidases (DPPs) mediate regulatory activity of their substrates and have been linked to a variety of diseases including type 2 diabetes, obesity and cancer. DPPs have post-proline dipeptidyl aminopeptidase activity, cleaving Xaa-Pro dipeptides from the N-termini of proteins. DPPs can bind specific voltage-gated potassium channels and alter their expression and biophysical properties and may also influence T cells. DPP proteins include DPRP1 (dipeptidyl-peptidase 8, DPP8, MSTP141), DPRP2 (dipeptidyl-peptidase 9, DPP9), DPP3 (DPPIII), DPRP3 (dipeptidyl-peptidase 10, DPP10, DPL2, DPPY, DPRP3), DPP6 (DPPX), DPP4 (adenosine deaminase complexing protein-2, T cell activation antigen CD26) and DPP7 (DPP2, QPP). DPPX, which can bind to the potassium channel KCND2, is a single-pass type II membrane protein. It is expressed mainly in brain tissues and may act as a modulator for cell surface expressed and activity of KCND2.

REFERENCES

1. Yokotani, N., et al. 1993. Non-conservation of a catalytic residue protein encoded by a gene on human chromosome 7. *Hum. Mol. Genet.* 2: 1037-1039.
2. Strop, P., et al. 2004. Structure of a human A-type potassium channel interacting protein DPPX, a member of the dipeptidyl aminopeptidase family. *J. Mol. Biol.* 343: 1055-1065.
3. Jerng, H.H., et al. 2004. Modulation of Kv4.2 channel expression and gatin (DPP10). *Biophys. J.* 87: 2380-2396.
4. Jerng, H.H., et al. 2004. Molecular physiology and modulation of somatodendritic A-type potassium channels. *Mol. Cell. Neurosci.* 27: 343-369.
5. Zagha, E., et al. 2005. DPP10 modulates Kv4-mediated A-type potassium channels. *J. Biol. Chem.* 280: 18853-18861.

CHROMOSOMAL LOCATION

Genetic locus: Dpp6 (mouse) mapping to 5 B1.

PRODUCT

DPPX 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DPPX shRNA Plasmid (m): sc-60549-SH and DPPX shRNA (m) Lentiviral Particles: sc-60549-V as alternate gene silencing products.

For independent verification of DPPX (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-60549A, sc-60549B and sc-60549C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DPPX siRNA (m) is recommended for the inhibition of DPPX 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 μ M in 66 μ 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

DPPX (A-8): sc-365147 is recommended as a control antibody for monitoring of DPPX 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 DPPX gene expression knockdown using RT-PCR Primer: DPPX (m)-PR: sc-60549-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.