SANTA CRUZ BIOTECHNOLOGY, INC.

DPRP2 siRNA (h): sc-62236

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, DPRP2, DPP3, DPP7, DPP10, DPPX and CD26. DPRP2 (dipeptidyl-peptidase IV-related protein 2), also known as DPP9 (dipeptidyl-peptidase 9), or DP9, is a member of the peptidase S9B family of proteins that exhibit prolyl oligopeptidase activity. DPRP2 localizes to the cytoplasm and is ubiquitously expressed with predominant expression in heart, muscle and liver. DPRP2 may play an important role in the regulation of signaling by peptide hormones.

REFERENCES

1. Olsen, C., et al. 2002. Identification and characterization of human DPP9, a novel homologue of dipeptidyl peptidase IV. Gene 299: 185-193.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608258. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Qi, S.Y., et al. 2003. Cloning and characterization of dipeptidyl peptidase 10, a new member of an emerging subgroup of serine proteases. Biochem. J. 373: 179-189.
4. Ajami, K., et al. 2004. Dipeptidyl peptidase 9 has two forms, a broad tissue distribution, cytoplasmic localization and DPIV-like peptidase activity. Biochim. Biophys. Acta 1679: 18-28.
5. Lankas, G.R., et al. 2005. Dipeptidyl peptidase IV inhibition for the treatment of type 2 diabetes: potential importance of selectivity over dipeptidyl peptidases 8 and 9. Diabetes 54: 2988-2994.
6. Busek, P., et al. 2007. Dipeptidyl peptidase-IV enzymatic activity bearing molecules in human brain tumors—good or evil? Front. Biosci. 13: 2319-2326.

CHROMOSOMAL LOCATION

Genetic locus: DPP9 (human) mapping to 19p13.3.

PRODUCT

DPRP2 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 DPRP2 shRNA Plasmid (h): sc-62236-SH and DPRP2 shRNA (h) Lentiviral Particles: sc-62236-V as alternate gene silencing products.

For independent verification of DPRP2 (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-62236A, sc-62236B and sc-62236C.

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

DPRP2 siRNA (h) is recommended for the inhibition of DPRP2 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

DPRP2 (F-1): sc-271634 is recommended as a control antibody for monitoring of DPRP2 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 DPRP2 gene expression knockdown using RT-PCR Primer: DPRP2 (h)-PR: sc-62236-PR (20 µl, 598 bp). 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.