SANTA CRUZ BIOTECHNOLOGY, INC.

DPP3 siRNA (h): sc-62230

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. DPP3 (dipeptidyl-peptidase 3), also known as DPPIII, is a zinc-exopeptidase that belongs to the peptidase M49 family. DPP3 localizes to the cytoplasm and is involved in intracellular protein catabolism. More specifically, DPP3 is an important enzyme involved in the degradation of enkephalins. An increase in the activity of DPP3 is implicated in ovarian and endometrial cancers.

REFERENCES

1. Shimamori, Y., et al. 1989. Human placental dipeptidyl aminopeptidase III: hydrolysis of enkephalins and its stimulation by cobaltous ion. Biochem. Med. Metab. Biol. 40: 305-310.
2. Hashimoto, J., et al. 2000. Identification of dipeptidyl peptidase III in human neutrophils. Biochem. Biophys. Res. Commun. 273: 393-397.
3. Yamamoto, Y., et al. 2000. Characterization of tynorphin, a potent endogenous inhibitor of dipeptidyl peptidaseIII. Peptides 21: 503-508.
4. Fukasawa, K.M., et al. 2000. Assignment of the dipeptidyl peptidase III gene (DPP3) to human chromosome 11 band q12→q13.1 by *in situ* hybridization. Cytogenet. Cell Genet. 88: 99-100.
5. Abramic, M., et al. 2001. Human and rat dipeptidyl peptidase III: biochemical and mass spectrometric arguments for similarities and differences. Biol. Chem. 381: 1233-1243.
6. Abramic, M., et al. 2003. Highly reactive cysteine residues are part of teh substrate binding site of mammalian dipeptidyl peptidases III. Int. J. Biochem. Cell Biol. 36: 434-446.

CHROMOSOMAL LOCATION

Genetic locus: DPP3 (human) mapping to 11q13.2.

PRODUCT

DPP3 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 DPP3 shRNA Plasmid (h): sc-62230-SH and DPP3 shRNA (h) Lentiviral Particles: sc-62230-V as alternate gene silencing products.

For independent verification of DPP3 (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-62230A, sc-62230B and sc-62230C.

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

DPP3 siRNA (h) is recommended for the inhibition of DPP3 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 DPP3 gene expression knockdown using RT-PCR Primer: DPP3 (h)-PR: sc-62230-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.