SANTA CRUZ BIOTECHNOLOGY, INC.

CNDP2 siRNA (m): sc-72936

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The Power to Question

BACKGROUND

CNDP2 is a cytosolic, non-specific dipeptidase that belongs to the peptidase M20A family of proteins. CNDP2 is a secreted peptidase homologous to M20 peptidases. CNDP2 is expressed by all adult and fetal tissue, however, an isoform lacking exons 3 and 4 was expressed in all fetal tissue, but only in adult liver. In human hepatocellular carcinoma (HCC) cells, this isoform (also referred to as CPGL-B, carboxypeptidase of glutamate like-B) is frequently underexpressed. This underexpression shows a significant correlation with HCC venous invasion and tumor microsatellite formations. Overexpression of CPGL-B in hepatocellular carcinoma cells leads to significant inhibition of HC cell viability, colony formation, cell invasiveness and tumor formation.

REFERENCES

1. Serville, F., et al. 1979. A child with a ring 18 chromosome: 46,XX,r(18) and a decreased enzymatic activity of erythrocyte peptidase A. Ann. Pediatr. 26: 711-715.
2. Parkin, B.H. 1981. The evidential value of peptidase A as a semen typing system. J. Forensic Sci. 26: 398-404.
3. Zhang, P., et al. 2006. Identification of carboxypeptidase of glutamate like-B as a candidate suppressor in cell growth and metastasis in human hepatocellular carcinoma. Clin. Cancer Res. 12: 6617-6625.
4. Wanic, K., et al. 2008. Exclusion of polymorphisms in carnosinase genes (CNDP1 and CNDP2) as a cause of diabetic nephropathy in type 1 diabetes: results of large case-control and follow-up studies. Diabetes 57: 2547-2551.
5. Otani, H., et al. 2008. Colocalization of a carnosine-splitting enzyme, tissue carnosinase (CN2)/cytosolic non-specific dipeptidase 2 (CNDP2), with histidine decarboxylase in the tuberomammillary nucleus of the hypothalamus. Neurosci. Lett. 445: 166-169.

CHROMOSOMAL LOCATION

Genetic locus: Cndp2 (mouse) mapping to 18 E4.

PRODUCT

CNDP2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CNDP2 shRNA Plasmid (m): sc-72936-SH and CNDP2 shRNA (m) Lentiviral Particles: sc-72936-V as alternate gene silencing products.

For independent verification of CNDP2 (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-72936A, sc-72936B and sc-72936C.

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

CNDP2 siRNA (m) is recommended for the inhibition of CNDP2 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.

GENE EXPRESSION MONITORING

CNDP2 (AT15E5): sc-517394 is recommended as a control antibody for monitoring of CNDP2 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 CNDP2 gene expression knockdown using RT-PCR Primer: CNDP2 (m)-PR: sc-72936-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.