SANTA CRUZ BIOTECHNOLOGY, INC.

CD39L4 siRNA (h): sc-92204

BACKGROUND

CD39, also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENP1), is an integral membrane glycoprotein that acts as an extracellular nucleotide-hydrolyzing enzyme. Characteristically, CD39 and other members of the ecto-ATPase family contain apyrase-conserved regions and function to mediate nucleotide catabolism. CD39L4, also known as ENTPD5 (ectonucleoside triphosphate diphosphohydrolase 5), is a 428 amino acid protein that is similar to CD39 and localizes to the lumen of the endoplasmic reticulum (ER). Highly expressed in colon, testis, kidney, liver and prostate, CD39L4 is thought to promote reglycosylation reactions that are involved in the folding of glycoproteins and in quality control events in the ER. Like other members of the ecto-ATPase family, CD39L4 contains four apyrase-conserved regions and is catalytically activated by calcium and magnesium. Overexpression of CD39L4 is implicated in the development of breast, testicular and prostate cancer, suggesting that CD39L4 may be a proto-oncogene involved in carcinogenesis.

REFERENCES

1. Recio, J.A., et al. 2000. Both normal and transforming PCPH proteins have guanosine diphosphatase activity but only the oncoprotein cooperates with Ras in activating extracellular signal-regulated kinase ERK1. Cancer Res. 60: 1720-1728.
2. Páez, J.G., et al. 2001. Identity between the PCPH proto-oncogene and the CD39L4 (ENTPD5) ectonucleoside triphosphate diphosphohydrolase gene. Int. J. Oncol. 19: 1249-1254.
3. Rouzaut, A., et al. 2001. Expression of the protein product of the PCPH proto-oncogene in human tumor cell lines. Radiat. Res. 155: 181-187.
4. Blánquez, M.J., et al. 2002. Gradual deregulation and loss of PCPH expression in the progression of human laryngeal neoplasia. Mol. Carcinog. 35: 186-195.
5. Blánquez, M.J., et al. 2004. Deregulated expression of the PCPH proto-oncogene in human breast cancers. Int. J. Oncol. 25: 821-830.

CHROMOSOMAL LOCATION

Genetic locus: ENTPD5 (human) mapping to 14q24.3.

PRODUCT

CD39L4 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 CD39L4 shRNA Plasmid (h): sc-92204-SH and CD39L4 shRNA (h) Lentiviral Particles: sc-92204-V as alternate gene silencing products.

For independent verification of CD39L4 (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-92204A, sc-92204B and sc-92204C.

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

CD39L4 siRNA (h) is recommended for the inhibition of CD39L4 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

CD39L4 (C-6): sc-377172 is recommended as a control antibody for monitoring of CD39L4 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 CD39L4 gene expression knockdown using RT-PCR Primer: CD39L4 (h)-PR: sc-92204-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.