

CD9P-1 siRNA (m): sc-142204

BACKGROUND

CD9P-1 (CD9 partner 1), also known as PTGFRN (Prostaglandin F2 receptor negative regulator) and Glu-Trp-Ile EWI motif-containing protein F, is a 879 amino acid endoplasmic reticular membrane protein that inhibits the binding of prostaglandin F2- α to its specific FP receptor. By this mechanism, CD9P-1 regulates prostaglandin sensitivity by decreasing the receptor number rather than the affinity constant, a form of non-competitive inhibition. CD9P-1 specifically associates with CD9, CD81, CD63, CD82 and CD151, but not with other integrins or tetraspanins. Though normally expressed primarily in keratinocytes, CD9P-1 expression is substantially increased in a number of cancer cell lines, suggesting that it is upregulated during tumorigenesis.

REFERENCES

- Orlicky, D.J., et al. 1996. Human chromosome 1 localization of the gene for a prostaglandin F2 α receptor negative regulatory protein. *Hum. Genet.* 97: 655-658.
- Stipp, C.S., et al. 2001. FPRP, a major, highly stoichiometric, highly specific CD81- and CD9-associated protein. *J. Biol. Chem.* 276: 4853-4862.
- Charrin, S., et al. 2001. The major CD9 and CD81 molecular partner. Identification and characterization of the complexes. *J. Biol. Chem.* 276: 14329-14337.
- Abache, T., et al. 2007. The transferrin receptor and the tetraspanin web molecules CD9, CD81, and CD9P-1 are differentially sorted into exosomes after TPA treatment of K562 cells. *J. Cell. Biochem.* 102: 650-664.
- Yu, L.R., et al. 2007. Improved titanium dioxide enrichment of phosphopeptides from HeLa cells and high confident phosphopeptide identification by cross-validation of MS/MS and MS/MS/MS spectra. *J. Proteome Res.* 6: 4150-4162.
- André, M., et al. 2007. Glycosylation status of the membrane protein CD9P-1. *Proteomics* 7: 3880-3895.
- André, M., et al. 2009. *In situ* chemical cross-linking on living cells reveals CD9P-1 *cis*-oligomer at cell surface. *J. Proteomics* 73: 93-102.
- Charrin, S., et al. 2009. The Ig domain protein CD9P-1 down-regulates CD81 ability to support *Plasmodium yoelii* infection. *J. Biol. Chem.* 284: 31572-31578.

CHROMOSOMAL LOCATION

Genetic locus: *Ptgfrn* (mouse) mapping to 3 F2.2.

PRODUCT

CD9P-1 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 CD9P-1 shRNA Plasmid (m): sc-142204-SH and CD9P-1 shRNA (m) Lentiviral Particles: sc-142204-V as alternate gene silencing products.

For independent verification of CD9P-1 (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-142204A, sc-142204B and sc-142204C.

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

CD9P-1 siRNA (m) is recommended for the inhibition of CD9P-1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD9P-1 gene expression knockdown using RT-PCR Primer: CD9P-1 (m)-PR: sc-142204-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Cohen, J., et al. 2022. Oocyte ERM and EWI proteins are involved in mouse fertilization. *Front. Cell Dev. Biol.* 10: 863729.

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.