SANTA CRUZ BIOTECHNOLOGY, INC.

FOCAD siRNA (h): sc-92934

BACKGROUND

Focal adhesions are identified as areas within the plasma membrane of tissue culture cells that adhere tightly to the underlying substrate. *In vivo,* these regions are involved in the adhesion of cells to the extracellular matrix. FOCAD (focadhesin), also known as KIAA1797, is a 1,801 amino acid multi-pass membrane focal adhesion complex protein expressed that is ubiquitously expressed. FOCAD is suggested to function as a tumor suppressor in gliomas and may be involved in neurodegeneration leading to Alzheimer's disease. Mutations in the gene encoding FOCAD is thought to be associated with polyposis and colorectal cancer development. FOCAD is encoded by a gene located on human chromosome 9, which consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes.

REFERENCES

1. Burridge, K., et al. 1988. Focal adhesions: transmembrane junctions between the extracellular matrix and the cytoskeleton. Annu. Rev. Cell Biol. 4: 487-525.
2. Menko, F.H., et al. 1999. Genetics of colorectal cancer. I. Non-polyposis and polyposis forms of hereditary colorectal cancer. Ned. Tijdschr. Geneeskd. 143: 1201-1206.
3. Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
4. Temtamy, S.A., et al. 2007. Phenotypic and cytogenetic spectrum of 9p trisomy. Genet. Couns. 18: 29-48.
5. Melton, P.E., et al. 2010. Bivariate genetic association of KIAA1797 with heart rate in American Indians: the Strong Heart Family Study. Hum. Mol. Genet. 19: 3662-3671.
6. Hong, X., et al. 2010. Heparanase expression of glioma in human and animal models. J. Neurosurg. 113: 261-269.
7. Brockschmidt, A., et al. 2012. KIAA1797/FOCAD encodes a novel focal adhesion protein with tumour suppressor function in gliomas. Brain 135: 1027-1041.

CHROMOSOMAL LOCATION

Genetic locus: FOCAD (human) mapping to 9p21.3.

PRODUCT

FOCAD 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 FOCAD shRNA Plasmid (h): sc-92934-SH and FOCAD shRNA (h) Lentiviral Particles: sc-92934-V as alternate gene silencing products.

For independent verification of FOCAD (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-92934A, sc-92934B and sc-92934C.

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

FOCAD siRNA (h) is recommended for the inhibition of FOCAD 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 FOCAD gene expression knockdown using RT-PCR Primer: FOCAD (h)-PR: sc-92934-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.