SANTA CRUZ BIOTECHNOLOGY, INC.

FGL1 siRNA (h): sc-62453

BACKGROUND

FGL1, also known as hepatocyte-derived Fibrinogen-related protein-1 (HFREP-1), LFIRE1 or Hepassocin, is a member of the Fibrinogen family of proteins containing a C-terminal Fibrinogen-like domain. It is a secreted protein that exists as a homodimer and is exclusively expressed in the adult and fetal liver. FGL1 strongly associates with Fibrin during clot formation and may also associate with Fibrinogen. It is upregulated during liver regeneration and functions as a regulator in liver cell growth. FGL1 has mitogenic activity and may play a role in liver development and function. It has high sequence homology with Fibrinogen β and Fibrinogen γ, however it lacks a platelet-binding site, a Thrombin-sensitive site and a cross-linking region. FGL1 is downregulated in hepatocellular carcinomas (HCC) and its level of expression in HCC highly correlates with the degree of tumor differentiation. This suggests that FGL1 may have growth suppressor activity.

REFERENCES

1. Yamamoto, T., et al. 1993. Molecular cloning and initial characterization of a novel Fibrinogen-related gene, HFREP-1. Biochem. Biophys. Res. Commun. 193: 681-687.
2. Isomura, M., et al. 2000. Sequence analysis of a total of three megabases of DNA in two regions of chromosome 8p. DNA Res. 6: 387-400.
3. Hara, H., et al. 2000. Isolation and characterization of a novel liver-specific gene, Hepassocin, upregulated during liver regeneration. Biochim. Biophys. Acta 1492: 31-44.
4. Hara, H., et al. 2001. Molecular cloning and functional expression analysis of a cDNA for human Hepassocin, a liver-specific protein with hepatocyte mitogenic activity. Biochim. Biophys. Acta 1520: 45-53.
5. Zimmermann, A. 2002. Liver regeneration: the emergence of new pathways. Med. Sci. Monit. 8: RA53-RA63.
6. Yan, J., et al. 2003. Cloning and characterization of a mouse liver-specific gene mfrep-1, up-regulated in liver regeneration. Cell Res. 12: 353-361.

CHROMOSOMAL LOCATION

Genetic locus: FGL1 (human) mapping to 8p22.

PRODUCT

FGL1 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 FGL1 shRNA Plasmid (h): sc-62453-SH and FGL1 shRNA (h) Lentiviral Particles: sc-62453-V as alternate gene silencing products.

For independent verification of FGL1 (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-62453A, sc-62453B and sc-62453C.

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

FGL1 siRNA (h) is recommended for the inhibition of FGL1 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

FGL1 (A-8): sc-514057 is recommended as a control antibody for monitoring of FGL1 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 FGL1 gene expression knockdown using RT-PCR Primer: FGL1 (h)-PR: sc-62453-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.