SANTA CRUZ BIOTECHNOLOGY, INC.

HDGFRP3 siRNA (h): sc-72347

BACKGROUND

HDGFRP3 (hepatoma-derived growth factor-related protein 3), also known as HRP-3 or HDGF-2, is a 203 amino acid nuclear protein belonging to the HDGF family and containing one PWWP domain. HDGF was initially characterized as a secreted mitogen from the Huh-7 human hepatoma cell line. HDGF is also reported to be involved in organ development and lung remodeling after injury by promoting proliferation of lung epithelial cells. HDGFRP3 is thought to be a radioresistance-related gene, regulating the radio- and chemo-resistant phenotype by reactive oxygen species-dependent p53 activation. HDGFRP3 is also thought to promote neurite outgrowth in cortical neurons via microtubule interaction, and may play a role in cell proliferation and enhance DNA synthesis. The HDGFRP3 gene is located on human chromosome 15q25.2 and conserved in mouse, rat, chimpanzee, bovine, canine and more.

REFERENCES

1. Ikegame, K., et al. 1999. A new member of a hepatoma-derived growth factor gene family can translocate to the nucleus. Biochem. Biophys. Res. Commun. 266: 81-87.
2. Cherepanov, P., et al. 2004. Identification of an evolutionarily conserved domain in human lens epithelium-derived growth factor/transcriptional co-activator p75 (LEDGF/p75) that binds HIV-1 integrase. J. Biol. Chem. 279: 48883-48892.
3. El-Tahir, H.M., et al. 2009. Hepatoma-derived growth factor-related protein-3 interacts with microtubules and promotes neurite outgrowth in mouse cortical neurons. J. Biol. Chem. 284: 11637-11651.
4. Bisson, N., et al. 2011. Selected reaction monitoring mass spectrometry reveals the dynamics of signaling through the GRB2 adaptor. Nat. Biotechnol. 29: 653-658.
5. Yun, H.S., et al. 2013. Depletion of hepatoma-derived growth factor-related protein-3 induces apoptotic sensitization of radioresistant A549 cells via reactive oxygen species-dependent p53 activation. Biochem. Biophys. Res. Commun. 439: 333-339.
6. Zhu, J., et al. 2013. Protein interaction discovery using parallel analysis of translated ORFs (PLATO). Nat. Biotechnol. 31: 331-334.

CHROMOSOMAL LOCATION

Genetic locus: HDGFRP3 (human) mapping to 15q25.2.

PRODUCT

HDGFRP3 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 HDGFRP3 shRNA Plasmid (h): sc-72347-SH and HDGFRP3 shRNA (h) Lentiviral Particles: sc-72347-V as alternate gene silencing products.

For independent verification of HDGFRP3 (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-72347A, sc-72347B and sc-72347C.

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

HDGFRP3 siRNA (h) is recommended for the inhibition of HDGFRP3 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

HDGFRP3 (G-10): sc-390944 is recommended as a control antibody for monitoring of HDGFRP3 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 HDGFRP3 gene expression knockdown using RT-PCR Primer: HDGFRP3 (h)-PR: sc-72347-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.