SANTA CRUZ BIOTECHNOLOGY, INC.

GGTL3 siRNA (h): sc-75129

BACKGROUND

Glutathione is a tripeptide electron donor that functions as an antioxidant, protecting cells from toxins by reducing disulfide bonds during oxidative stress. The metabolism of glutathione requires a variety of enzymes, such as GGT1, GGT2, GGT5, GGTLC2 and GGTL3. GGTL3, also known as GGT7 (γ-glutamyltransferase 7), GGT4 or GGTL5, is a 662 amino acid single-pass type II membrane protein that belongs to the γ-glutamyltransferase family and is involved in the pathway of glutathione metabolism. Expressed at low levels in multiple tissues, including lung, liver, heart, brain, testis and spleen, GGTL3 functions as a heterodimer of light and heavy chains that work together to cleave glutathione-conjugated peptides, thereby releasing an unconjugated protein. GGTL3 exists as multiple alternatively spliced isoforms and, via its catalytic activity, may be involved in the pathogenesis of lung cancer.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GGT7 (human) mapping to 20q11.22.

PRODUCT

GGTL3 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 GGTL3 shRNA Plasmid (h): sc-75129-SH and GGTL3 shRNA (h) Lentiviral Particles: sc-75129-V as alternate gene silencing products.

FFor independent verification of GGTL3 (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-75129A, sc-75129B and sc-75129C.

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

GGTL3 siRNA (h) is recommended for the inhibition of GGTL3 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 GGTL3 gene expression knockdown using RT-PCR Primer: GGTL3 (h)-PR: sc-75129-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.