SANTA CRUZ BIOTECHNOLOGY, INC.

GTRGEO22 siRNA (m): sc-145834

BACKGROUND

Polyglutamylation, polyglycylation and tyrosination are post-transational modifications that Tubulin undergoes in order to perform at maximal function. Polyglutamylation is evolutionarily conserved from protists to mammals and is involved in several microtubule functions such as axonemal beating, stability of centrioles, neuronal differentiation and mediating the interaction between tubulin and microtubule associated proteins. The neuronal Tubulin polyglutamylase is a complex that contains a TTL (Tubulin tyrosine ligase-like) domain through which it catalyzes the ligation of glutamate to Tubulins. The TTL domain contains ATP-grasp-like motifs that correspond to the ATP/Mg^{2+} binding site typical of enzymes with ATP-dependent carboxylate-amine/thiol ligase activity. GTRGEO22, also known as Tubulin polyglutamylase complex subunit 1 (PGs1) or C19orf20, is a 290 amino acid cytoplasmic protein. Required for the development of spermatid flagellum, mutations to the gene encoding GTRGEO22 may lead to male sterility. GTRGEO22 is a member of the tubulin polyglutamylase complex, in addition to PGs2, PGs3, PGs4 and PGs5.

REFERENCES

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6. Petroziello, J., et al. 2004. Suppression subtractive hybridization and expression profiling identifies a unique set of genes overexpressed in non-small-cell lung cancer. Oncogene 23: 7734-7745.
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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Tpgs1 (mouse) mapping to 10 C1.

PRODUCT

GTRGEO22 siRNA (m) is a target-specific 19-25 nt siRNA 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 GTRGEO22 shRNA Plasmid (m): sc-145834-SH and GTRGEO22 shRNA (m) Lentiviral Particles: sc-145834-V as alternate gene silencing 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

GTRGEO22 siRNA (m) is recommended for the inhibition of GTRGEO22 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 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 GTRGEO22 gene expression knockdown using RT-PCR Primer: GTRGEO22 (m)-PR: sc-145834-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.