

β-glucuronidase siRNA (r): sc-270487

BACKGROUND

The enzyme β-glucuronidase catalyzes the conversion of β-D-glucuronoside and water to an alcohol and D-glucuronate. Deficiency of β-glucuronidase is the cause of the human lysosomal storage disorder mucopolysaccharidosis type VII (MPS VII). Specifically, two residues appear important for catalytic activity: Glu 451 and Glu 540. Mutations at these sites affect the overall structure of the protein, which normally consists of a homotetramer with each promoter including a jelly roll barrel, an immunoglobulin constant domain and a TIM barrel. Regulation of β-glucuronidase activity may play a role in tumorigenesis and the invasiveness of a number of cancers, and is also an important factor in the development of functional prodrugs that require the cleavage of an active cytostatic by endogenous enzymes for antitumor activity.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: *Gusb* (rat) mapping to 12q12.

PRODUCT

β-glucuronidase siRNA (r) 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 β-glucuronidase shRNA Plasmid (r): sc-270487-SH and β-glucuronidase shRNA (r) Lentiviral Particles: sc-270487-V as alternate gene silencing products.

For independent verification of β-glucuronidase (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270487A, sc-270487B and sc-270487C.

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

β-glucuronidase siRNA (r) is recommended for the inhibition of β-glucuronidase expression in rat 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 β-glucuronidase gene expression knockdown using RT-PCR Primer: β-glucuronidase (r)-PR: sc-270487-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.