

SUMF2 siRNA (m): sc-106582

BACKGROUND

Sulfatases are enzymes that remove sulfate residues from a variety of substrates via the hydrolysis of sulfate esters. In order to function properly, sulfatases require the presence of C α -formylglycine (FGly), a unique amino acid, in their active site. This amino acid is synthesized by enzymes that use a cysteine to posttranslationally generate FGly. SUMF2 (sulfatase-modifying factor 2), also known as pFGE or PSEC0171, is a 301 amino acid protein that belongs to the sulfatase-modifying factor family and is expressed in lung, heart, placenta, brain, liver, pancreas, skeletal muscle and kidney. Localized to the lumen of the endoplasmic reticulum (ER), SUMF2 acts as an FGly-generating enzyme that, when functioning alone, has low catalytic activity. When present in a heterodimer with SUMF1 (another FGly-generating protein), SUMF2 exhibits higher rates of catalysis. Four isoforms of SUMF2 are expressed due to alternative splicing events.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Sumf2 (mouse) mapping to 5 G1.3.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

SUMF2 siRNA (m) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SUMF2 shRNA Plasmid (m): sc-106582-SH and SUMF2 shRNA (m) Lentiviral Particles: sc-106582-V as alternate gene silencing products.

For independent verification of SUMF2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106582A and sc-106582B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SUMF2 siRNA (m) is recommended for the inhibition of SUMF2 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 μ M in 66 μ l. 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 SUMF2 gene expression knockdown using RT-PCR Primer: SUMF2 (m)-PR: sc-106582-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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