SANTA CRUZ BIOTECHNOLOGY, INC.

Gulo siRNA (m): sc-145842

BACKGROUND

Gulo (gulonolactone (L-) oxidase), also known as L-gulono-gamma-lactone oxidase (LGO), sfx, unh or unhip, is a 440 amino acid single-pass membrane protein of the microsome membrane and endoplasmic reticulum membrane. A member of the oxygen-dependent FAD-linked oxidoreductase family, Gulo contains one FAD-binding PCMH-type domain and converts hydrogen peroxide and L-gulono-1,4-lactone to L-xylo-hexulonolactone, which then forms L-ascorbate through spontaneous isomerization. Genetic Gulo deficiency is one cause of insufficient vitamin C synthesis, and unless obtained through diet, vitamin C deficiency is likely to result in a number of ailments including increased oxidative stress, decreased immune response and abmormal spermatogenesis. Gulo is encoded by a gene located on mouse chromosome 14.

REFERENCES

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5. Lee, C.W., Wang, X.D., Chien, K.L., Ge, Z., Rickman, B.H., Rogers, A.B., Varro, A., Whary, M.T., Wang, T.C. and Fox, J.G. 2008. Vitamin C supplementation does not protect L-gulono-γ-lactone oxidase-deficient mice from *Helicobacter pylori*-induced gastritis and gastric premalignancy. Int. J. Cancer 122: 1068-1076.
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CHROMOSOMAL LOCATION

Genetic locus: Gulo (mouse) mapping to 14 D1.

PRODUCT

Gulo 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 Gulo shRNA Plasmid (m): sc-145842-SH and Gulo shRNA (m) Lentiviral Particles: sc-145842-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

Gulo siRNA (m) is recommended for the inhibition of Gulo 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 Gulo gene expression knockdown using RT-PCR Primer: Gulo (m)-PR: sc-145842-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.