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FGGY siRNA (m): sc-145168

BACKGROUND

FGGY, also known as FLJ10986, is a 551 amino acid member of the FGGY kinase family that exists as 4 isoforms which are produced by alternative splicing events. Expressed in lung, kidney, small intestine, liver and fetal brain, FGGY is encoded by a gene that maps to chromosome 1 and, when mutated, is associated with sporadic amyotrophic lateral sclerosis (ALS). ALS is a neurodegenerative disorder that affects motor neurons and results in fatal paralysis, usually within 2 to 5 years after initial diagnosis. Chromosome 1, on which the gene encoding FGGY is located, is the largest human chromosome, spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, many of which are associated with genetic diseases, including Hutchinson-Gilford progeria, familial adenomatous polyposis, Stickler syndrome, Gaucher disease and Usher syndrome.

REFERENCES

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- Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
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- Dunckley, T., et al. 2007. Whole-genome analysis of sporadic amyotrophic lateral sclerosis. *N. Engl. J. Med.* 357: 775-788.

CHROMOSOMAL LOCATION

Genetic locus: Fggy (mouse) mapping to 4 C5.

PRODUCT

FGGY siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FGGY shRNA Plasmid (m): sc-145168-SH and FGGY shRNA (m) Lentiviral Particles: sc-145168-V as alternate gene silencing products.

For independent verification of FGGY (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-145168A, sc-145168B and sc-145168C.

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

FGGY siRNA (m) is recommended for the inhibition of FGGY 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.

GENE EXPRESSION MONITORING

FGGY (C-9): sc-393376 is recommended as a control antibody for monitoring of FGGY gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FGGY gene expression knockdown using RT-PCR Primer: FGGY (m)-PR: sc-145168-PR (20 μ l). 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.