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INF2 siRNA (m): sc-146236

BACKGROUND

INF2 (inverted formin, FH2 and WH2 domain containing), also known as FSGS5 or pp9484, is a 1,249 amino acid cytoplasmic protein that is widely expressed and belongs to the formin homology family. Containing one FH2 (formin homology 2) domain, one GBD/FH3 (Rho GTPase-binding/formin homology 3) domain and a WH2 domain, INF2 is considered a diaphanous formin due to the presence of a diaphanous inhibitory domain located at its N-terminal region. INF2 may play a role in polymerization and depolymerization of actin filaments. INF2 interacts with actin at the FH2 domain and is regulated by autoinhibition due to intramolecular GBD-DAD binding. INF2 exists as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 14q32.33 and mouse chromosome 12 F1. Mutations in the gene encoding INF2 may be the cause of autosomal dominant FSGS (focal segmental glomerulosclerosis), a glomerular disease characterized by proteinuria and progression to end-stage renal disease.

REFERENCES

1. Bindschadler, M., et al. 2004. Formin' new ideas about actin filament generation. *Proc. Natl. Acad. Sci. USA* 101: 14685-14686.
2. Chhabra, E.S., et al. 2006. INF2 is a WASP homology 2 motif-containing formin that severs actin filaments and accelerates both polymerization and depolymerization. *J. Biol. Chem.* 281: 26754-26767.
3. Chhabra, E.S., et al. 2009. INF2 is an endoplasmic reticulum-associated formin protein. *J. Cell Sci.* 122: 1430-1440.
4. Brown, E.J., et al. 2010. Mutations in the formin gene INF2 cause focal segmental glomerulosclerosis. *Nat. Genet.* 42: 72-76.
5. Boyer, O., et al. 2011. Mutations in INF2 are a major cause of autosomal dominant focal segmental glomerulosclerosis. *J. Am. Soc. Nephrol.* 22: 239-245.
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CHROMOSOMAL LOCATION

Genetic locus: Inf2 (mouse) mapping to 12 F1.

PRODUCT

INF2 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 INF2 shRNA Plasmid (m): sc-146236-SH and INF2 shRNA (m) Lentiviral Particles: sc-146236-V as alternate gene silencing products.

For independent verification of INF2 (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-146236A and sc-146236B.

RESEARCH USE

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

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

INF2 siRNA (m) is recommended for the inhibition of INF2 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 INF2 gene expression knockdown using RT-PCR Primer: INF2 (m)-PR: sc-146236-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.