SANTA CRUZ BIOTECHNOLOGY, INC.

eIF4GII siRNA (m): sc-144621

BACKGROUND

Translation initiation in eukaryotes necessitates the assembly of an 80S ribosomal complex. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that leads to 80S ribosomal assembly and initiation of translation. Mammalian eukaryotic translation initiation factor 4F (eIF4F) is a protein complex that contains eIF4A, eIF4E and eIF4G, binds mRNA at a 5'-cap motif and recruits the 43S ribosomal preinitiation complex to the transcript. Along with eIF4B, the eIF4F complex mediates the unwinding of mRNA secondary structure to facilitate ribosome association. eIF4E specifically interacts with the 5' cap, eIF4A is a bidirectional RNA helicase, and eIF4GI and eIF4GII are scaffolding proteins which coordinate eIF4E, eIF4A, eIF3 and the 40S ribosome. eIF4GII (also known as eIF4G3 and eIF4-g3) is a 1,585 amino acid protein that is 46% homologous and functionally similar to eIF4GI.

REFERENCES

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3. Gradi, A., et al.1998. A novel functional human eukaryotic translation initiation factor 4G. Mol. Cell. Biol. 18: 334-342.
4. Imataka, H., et al.1998. A newly identified N-terminal amino acid sequence of human eIF4G binds poly(A)-binding protein and functions in poly(A)-dependent translation. EMBO J. 17: 7480-7489.
5. Gingras, A.C., et al. 1999. eIF4 initiation factors: effectors of mRNA recruitment to ribosomes and regulators of translation. Annu. Rev. Biochem. 68: 913-963.
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CHROMOSOMAL LOCATION

Genetic locus: Eif4g3 (mouse) mapping to 4 D3.

PRODUCT

eIF4GII 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 eIF4GII shRNA Plasmid (m): sc-144621-SH and eIF4GII shRNA (m) Lentiviral Particles: sc-144621-V as alternate gene silencing products.

PROTOCOLS

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

eIF4GII siRNA (m) is recommended for the inhibition of eIF4GII 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 eIF4GII gene expression knockdown using RT-PCR Primer: eIF4GII (m)-PR: sc-144621-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.