



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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## EF-G1 siRNA (m): sc-143307

### BACKGROUND

Protein translation consists of initiation, elongation and termination stages that are catalyzed by several protein factors. In mitochondria, the elongation stage requires three elongation factors: Ts, Tu and G. EF-G1 (elongation factor G1) is a 751 amino acid protein containing a GTP-binding elongation factor signature and a GTP-binding domain. This mitochondrial protein promotes the GTP-dependent translocation of the nascent protein chain from the ribosomal A-site to the P-site. Defects in the gene encoding EF-G1 lead to a mutated GTP-binding domain is the cause of combined oxidative phosphorylation deficiency (COXPD), a disease that results in early fatal progressive hepatocerebralopathy.

### REFERENCES

1. Gao, J., et al. 2001. Cloning and characterization of human and mouse mitochondrial elongation factor G, GFM and Gfm, and mapping of GFM to human chromosome 3q25.1-q26.2. *Genomics* 74: 109-114.
2. Hammarsund, M., et al. 2001. Identification and characterization of two novel human mitochondrial elongation factor genes, hEFG2 and hEFG1, phylogenetically conserved through evolution. *Hum. Genet.* 109: 542-550.
3. Zeviani, M., et al. 2004. Mitochondrial disorders. *Brain* 127: 2153-2172.
4. Coenen, M.J., et al. 2004. Mutant mitochondrial elongation factor G1 and combined oxidative phosphorylation deficiency. *N. Engl. J. Med.* 351: 2080-2086.
5. Smeitink, J.A., et al. 2006. Distinct clinical phenotypes associated with a mutation in the mitochondrial translation elongation factor EFTs. *Am. J. Hum. Genet.* 79: 869-877.
6. Valente, L., et al. 2007. Infantile encephalopathy and defective mitochondrial DNA translation in patients with mutations of mitochondrial elongation factors EFG1 and EFTu. *Am. J. Hum. Genet.* 80: 44-58.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 606639. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: Gfm1 (mouse) mapping to 3 E1.

### PRODUCT

EF-G1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EF-G1 shRNA Plasmid (m): sc-143307-SH and EF-G1 shRNA (m) Lentiviral Particles: sc-143307-V as alternate gene silencing products.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

EF-G1 siRNA (m) is recommended for the inhibition of EF-G1 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  $\mu$ M in 66  $\mu$ 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 EF-G1 gene expression knockdown using RT-PCR Primer: EF-G1 (m)-PR: sc-143307-PR (20  $\mu$ 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.