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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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SANTA CRUZ BIOTECHNOLOGY, INC.

# MIPEP siRNA (m): sc-149438

## BACKGROUND

MIPEP (Mitochondrial intermediate peptidase) is a 713 amino acid protein that performs the final step in processing nuclear-encoded proteins that are targeted the mitochondrial inner membrane or matrix. MIPEP is primarily involved in the maturation of oxidative phosphorylation-related proteins and is accordingly expressed at highest levels in tissues that have high oxygen consumption, such as skeletal muscle, brain, heart and pancreas. Significantly, human MIPEP is the functional homolog of yeast YMIP, a protein that promotes mitochondrial iron uptake and is regulated by the yeast homolog of frataxin, which is required for mitochondrial iron efflux. Due to the likely regulatory effect that human frataxin has on it, MIPEP may be implicated in the clinical manifestations of Friedreich ataxia, an autosomal recessive neurodegenerative disease caused by deficiency of frataxin.

## REFERENCES


1. Isaya, G., et al. 1992. Sequence analysis of rat mitochondrial intermediate peptidase: similarity to zinc metallopeptidases and to a putative yeast homologue. Proc. Natl. Acad. Sci. USA 89: 8317-8321.
2. Chew, A., et al. 1997. Cloning, expression, and chromosomal assignment of the human mitochondrial intermediate peptidase gene (MIPEP). Genomics 40: 493-496.
3. Branda, S.S., et al. 1999. Mitochondrial intermediate peptidase and the yeast frataxin homolog together maintain mitochondrial iron homeostasis in *Saccharomyces cerevisiae*. Hum. Mol. Genet. 8: 1099-1110.
4. Chew, A., et al. 2000. Functional and genomic analysis of the human mitochondrial intermediate peptidase, a putative protein partner of frataxin. Genomics 65: 104-112.
5. Cavadini, P., et al. 2000. Human Frataxin maintains mitochondrial iron homeostasis in *Saccharomyces cerevisiae*. Hum. Mol. Genet. 9: 2523-2530.
6. Coenen, M.J., et al. 2005. Mutation detection in four candidate genes (OXA1L, MRS2L, YME1L and MIPEP) for combined deficiencies in the oxidative phosphoryl-ation system. J. Inherit. Metab. Dis. 28: 1091-1097.


## CHROMOSOMAL LOCATION

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

## PRODUCT

MIPEP 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 MIPEP shRNA Plasmid (m): sc-149438-SH and MIPEP shRNA (m) Lentiviral Particles: sc-149438-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

MIPEP siRNA (m) is recommended for the inhibition of MIPEP 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 MIPEP gene expression knockdown using RT-PCR Primer: MIPEP (m)-PR: sc-149438-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.