

**Supplementary Table S1.** Sequence of the oligonucleotides used in the transfection experiments

| Oligonucleotide  | Sequence                       |
|------------------|--------------------------------|
| miR-133a-mimic   | 5'-UUUGGUCCCCUUAACCAGCUGUU-3'  |
|                  | 5'-CAGCUGGUUGAAGGGGACCUUAUU-3' |
| DS control mimic | 5'-UUCUCCGAACGUGUCACGUTT-3'    |
|                  | 5'-ACGUGACACGUUCGGAGAATT-3'    |
| miR-133a-decoy   | 5'-CAGCUGGUUGAAGGGGACCAAAT-3'  |
| SS control-decoy | 5'-CAGUAUUUUGUGUAGUACAA-3'     |

DS= double strand; SS= single strand. To increase stability, the RNA decoy nucleotides were modified by methylation in the 2' position of the ribose

**Supplementary Table S2.** Sequence of the primers used in the rtPCR experiments

| Gene     | Sequence                           | Accession number |
|----------|------------------------------------|------------------|
| MitoK    | F 5'-GGAGCCTAATAAGCTTAGTCTCTTCA-3' | NM_001014098.1   |
|          | R 5'-CGAAAGGTTCTCCATAACCAGTC-3'    |                  |
| MitoSur  | F 5'-CTCAAACATCGCTTTCAACTGT-3'     | NM_001007796.1   |
|          | R 5'-ACATGAGGTCTCCCCCTTTC-3'       |                  |
| Dio3     | F 5'-TTTTGGTACTTTTTGGCTTGC-3'      | NM_017210.4      |
|          | R 5'-CTTGTGCGTAGTCGAGGATG-3'       |                  |
| Hprt     | F 5'-CCCAGCGTCGTGATTAGTGATG-3'     | NM_012583.2      |
|          | R 5'- ACTCTTCATTCAGGCCCTTG-3'      |                  |
| Hmbs     | F 5' TCAGSTGGCTCAGATAGCATGCA-3'    | NM_013168.2      |
|          | R 5' TGGACCATCTTCTTGCTGAACA-3'     |                  |
| miRNA    | Sequennce                          | Accession number |
| 133a-3p  | 5'-TTTGGTCCCCTTCAACAAGCTG-3'       | MIMAT0000839     |
| SnRNA-U1 | 5'-CGACTGCATAATTTGTGGTAG-3'        |                  |
| SnRNA-U6 | 5'-CGCAAGGATGACACGCAAATT-3'        |                  |

## Figure S1. Rat mitoK promoter region: in red THRa1 consensus sequence

>NC\_051343.1:109717595-109722595 *Rattus norvegicus* strain BN/NHsdMcwi chromosome 8, mRatBN7.2, whole genome shotgun sequence.

**-5000** TGCATCCTTCAGGAATGAGGGCCTCAAAACAATGCCCTTCAGTCCCAACAACCCAGAGAGTTGTCAAGGCTTTTGTCAAAACAATGCCAACTAACTGTCAGT  
CCAGCACCCCTTACCTGACTTGGGAGACTGACGGAATGGTTAGTTTATTGTTCTGTTGCTCTGAAGCTTTGTCTTAATTCATTCTTTCTGCATCTTTAA  
ACTGGAGTTCAGACTGCAGTGATTGGAGCTGAAAGCCAAAGATATTTATGGTAACACTACCATACACACACAAAAATACGTTTCGTGGTGGTGACACCTT  
TAATCTAACACTCGGGAAGCAAAGGCAGGGGTGGGAATCTCTGTGATTCCACATATTGACTTCTGAGGCTGCCAGGGTTACAGAGAGTCTGTCTCAAAAA  
CAACAACAATAATACATTCTTAGCTTCCAACTTCAAGTCAGTAAAGGAAAAACAATGAAAATACATTATCAAGGTCTGCTGTAATATAATGTCCTCAA  
ATATTAGCCTGTTTTCTTGAAAAATACACTAGAAAGATGTAAACAGACTCTATTGTGGAAGTAATCTATGAGGGCTCAAATACCAGCCCATTGCTGTTTACCT  
TCACTGAGTCTAACAGGAACCTTAGCATTCTCGGCTGGGACTGCGCATTAGAGAAAGTATGGCTGAACAGTACCCAGCACAGAGCTGGGGAGAGCGATGTC  
TTATCTCGGCAGTAACATGCCAACCCACCCACACTCTGCTCCCAAACTGTCTGCCAACTCTCAATCTCTTCAGCTTTCACAGGGATTGGCTGCTAACAT  
CATCTGTAGTTCTTAGTGGTACCGGGTCTTCTTGAAGTCTGAGCAGATTATCTGGAAGTGTACCTCAGTCTGTGTGTGAGTATATGCTGAGATTGGCC  
TGTCTGTGTGTCAGGAACTAGAAAGAGGGTCAGAAGAGGGTCAAGAGGACTGAAATCTTAAGCAAGTGAAGAACAGAGTAAGGGATACGTACTAGGAAAGCAA  
AGGGAGAAAAAGCAACTGTAGTCTAGTGGGAGGGTTTACCTGGGATGCACGCCAGGGCTGAGTAAGGAGGCTGGCAGCGGTTATGCTGCAATCCAG  
GGCTCAGGGGGCAGAAACAGGAGGTTCAAGTAAAGGACATCTTGGCTACAAAGTGACTTAAAGGCCAGCCTGGGCTACATTACCAGATCACAAAAA  
ATAATGTTTGGGCTTCCAGAACCTTCCCTCTGGTGGAGCAAGGGTATGTGCACAAAGAACTTGTATGGGAACAGGTAATGGAGCGGGCACTCAAGCTC  
CTGTCCCGCCACTGCTCCCAACTGGAAGGGGGCGAGTGCACATCCAAGTATCCACGGGTTCTAAAGGAAAGTGGTGTGAGACTGGTACCT  
ACCATTTCTCTTGAACACGAGCTCCCTTTCTCCCTCTGCTGTGACTTAAATGAGACCTCTTTCAGAACCCGGCTGAAATGGGCTGCCTCTTTAAAAATTT  
AAGTTTGAGATGAGGGAGCCTTTCATTGGCTTTCTGAAAAAGGATCTCACTGTATAGCCAGGCTGGCCTTGGACCCATGGTAACCTGTTGTACCAGCCTC  
CCAATTTATGCCCAGCTGAGGAAGCCCAATCAAGCTCTGGAGTTTTGAAATGTATGAGTTCATCCAGTCAGAACCCCTGCTGATAGAGCAACAGGTCTCA  
CAACAGAGAGCCTGAGATGTCTGGTTTACACCATCTGAAGCCTACTATGCCCTGTTTTCTAGACTTGGATGTATAGCTAATGTATTTCTTCTGGCTAAG  
CCGAGCCAACCTGGATTCTAACCTACCAAGGAGCCTAATCAAGCCTATCTAGAGATTCTAAGCTAGTGAATTGTTCTGCAAGAACCACAACACAGCAA  
GGCAGGGCCTCATCTACTCCTGTGCAAAACAATGCAGACCACGGAAGAAAGGCACATACCACCCACTAAGAGTGGAGAGCACTTAGACAATGGCTGTG  
TATTTCCAGGCAAGGCTGGTTGGTACTGCTTTATTTTGTATTTTTAGACACAGGGTCTCACTTGACTGGACTGGAATTCACCTGCAGTGAGCTGGCTC  
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GCTGCAAAATTAGGCCAATTAGCAGATATTAGCAACAACAGTTTCCGAATACGTTCCACATTGACATAGATTTTTTCACTTTAACACCACAGATCACACCTT  
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AGGTTCCCTCCAGTACCCATGTCAAGGTGGTTACACACAGTTGTGACGATGGTTCCAGAGGATCCAACACCCATGACATTCAAGTACCTGCATACATGAG  
TGCATATAAACTCGCAGGCTCAGTATGTACACAGAGTAAATAACGTAGCAGGCATCTCTCCCACTCTGTCAATTCAGAGAGGTGACTCTAGGTGCT  
TGTTTTAGATATCTTATGTATTTTACCCATGTTTTCTTAATACATAAACACATGAATCAGCTACAAATACAAACAATTAAGGCTGGAAGTATGACTTAACTGT  
AGCTATGTATGTATAGCATGTGTGAAGGTAAAGTCTAGGTTCAATCTCAGTATTAGAACCAACAGGCAAAAAAGGAAACCAAAAGTTACACACCTT  
TTCTTAAAGTTCTGTACTGTATCTGAAGTACTTCTAGTTCAAAGTTATCTTAACTGGAATATCTCTCTGTTTTTCTTATAGGACTATTTGGTAACCCATCT  
AGTCGACGGACCTTATGAGCACCTGTATAAAAAAATAGTCCCATTAGGTTGAGCATGGTGGCATGTAACCTGTAACCCAGCACTAGATGGCTAAGGCACC  
AGGATCTCAAGTTCAAGGCTAGCTTAGTTATAGATGGAGAACCTGTCTGGAAGAAAATACCATGTATATATACCTGGGGGCTCACTATATACCCACCATTTGCT  
ATAAAATGCAAAAGGAGTCCAAGTTGAGATAGACCCAGTAAACAGTATTTATTAGTTCCGATCTCAGAGCATGATATAGAGAATCTCTGGCATAGCATAT  
CTGAATATTTCCCTTTTCGATCCCCACCCACTTTCTGTAGTCT

**-1359** **CAGCTCATGGCTG**AAAGGAGTCTGCATTGGCTGTGCCTCTATTATGAATACTATTTACTGAACACACTAG **-1289**  
GCACAGGATCTGTGTTTTTAAAGACCGATGGTGAACAAAATGGATACGTCCCAGGGTGGGGACACTCCAGGGTTAGAGTATGGGATGATGAGTGACG  
TAGGGCCAAGAGGTGGGGATGGGGAGGTGCTGCCTGTACCACCTCGTGGAACTAGTGCTAACCAGTGTGGCATAATACAGCTGGTCAGCAATGAGTG  
TTTCCAGGCAATATTGCTGGAGAGATGGAGGACCGACCATTTCCAGGGATAATCTATTTTTCGGATGCTTAAATGCTAAGTACATTTGCAAGATCTCC  
ATCAAAACCTTCTGACACTTAACTACTCCCAAGAGTGTAAGCTCAAGAGAGAAAGCAGCTTTGGCATCGCTCGCCATTGCTTATGGCTGTTGCCATTCC  
TCACCTTTGGGCAACCAGCATTGGTGGTGTATGAATCTCTCATCTTGGCTCTGACAGAAGCTTCTGCCAAGGGTTCTAACAATGGGGTGATAACATT  
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AGGACAGGTTCCGAGGCGCGACCGGACACTGGCTCAGGGCCTGTGACGCGAGGATGTCCAGTTCTCTAGGTCGTCCGAGTAAATCCGCGTGTCTGCC  
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GATGGGTGACGTATACAGAGCGCGCGTTACCCGGGACAGGTTCTGCTTGTGGGCTCAGTACCTGAGGT

**Figure S2. Rat mitoSur (ABCB8) promoter region: in red THRa1 consensus sequence**

>NC\_051339.1:c10788598-10783598 Rattus norvegicus strain BN/NHsdMcwi chromosome 4, mRatBN7.2, whole genome shotgun sequence

[illegible]