

**Table S2. Isotope-labeled heavy synthetic peptide sequence used for relative targeted quantification by PRM**

Gene name	Peptide sequence	Precursor ion(m/z)	Purity grade
Rsrc1	VKEIEAIESDSFVQQTFR(13C6,15N4)	712.699749	Crude
Rsrc1	LQLVLEAAAK(13C6,15N2)	532.333698	Crude
Rsrc1	EIDPDSIPTAIK(13C6,15N2)	653.852649	Crude
CircRsrc1	EVAEEPGAEGNPIEFK(13C6,15N2)	555.297555	Crude
CircRsrc1	GLGQKAEPEEMGR(13C6,15N4)	706.347317	Crude
Mtnd1	GPNIYGPYIGLQPFADAMK(13C6,15N2)	998.526235	Crude
Mtnd1	YSLFGALR(13C6,15N4)	468.762487	Crude
Mtnd2	LIYSTSLTMFPTNNSK(13C6,15N2)	969.989683	Crude
Mtnd2	WIIITELMK(13C6,15N2)	577.840302	Crude
Mtnd3	ANPYECGFDPSTSSAR(13C6,15N4)	841.361153	Crude
Mtnd3	ECGFDPSTSSAR(13C6,15N4)LPF	797.365707	Crude
Mtnd4	ISIILDPLTK(13C6,15N2)	560.857006	Crude
Mtnd4	LTNHMINLQPSHTR(13C6,15N4)	557.958952	Crude
Mtnd5	SLNLSLK(13C6,15N2)	391.746728	Crude
Mtnd5	TDANTAALQAILYNR(13C6,15N4)	822.932603	Crude
Mtco1	AYFTSATMIIAIPITGVK(13C6,15N2)	896.493872	Crude
Mtco1	WLFSTNHK(13C6,15N2)	520.773808	Crude
Mtco2	VVLPMEPIR(13C6,15N4)	588.856061	Crude
Mtco2	LLEVDNR(13C6,15N4)	434.741751	Crude
Mtco3	EGTYQGHHTPIVQK(13C6,15N2)	534.941994	Crude
Mtstp6	LHSFQHWLVK(13C6,15N2)	651.863489	Crude
Mtstp6	QMMLIHTPK(13C6,15N2)	553.800654	Crude
Mt-Cyb	DVNYGWLIR(13C6,15N4)	573.302507	Crude
Mt-Cyb	KTHPLFK(13C6,15N2)	439.770537	Crude
Tubb2b	INVYYNEATGNK(13C6,15N2)	697.345523	Crude

**Table S3. Primers used in PCR, RT-PCR and RT-qPCR****1. Primer sets used in RT-PCR analyses of mice testes**

<b>circRNA name</b>	<b>Primer name</b>	<b>Primer sequence(5'-3')</b>	<b>Expected product size (bp)</b>
circRsrc1	circRsrc1-convergent-F	CTCTTCAGACAGCAGGACATACA	181
	circRsrc1-convergent-R	CCTGGAACGACTGCGACTTC	
	circRsrc1-divergent-F	CAGAACCAGAAGAAATGGGACGC	166
	circRsrc1-divergent-R	CAGGACCTTGAGTCGGACCT	
circAp2b1	circAp2b1-convergent-F	GCAGACTGACAACCTGGAATAA	371
	circAp2b1-convergent-R	CTACAGCATTAGCCACCACCATT	
	circAp2b1-divergent-F	GAGCATCTGTGAGCGAGTAAC	539
	circAp2b1-divergent-R	GGTCTTCATCCTTCAAGCACTT	
circClptm1	circClptm1-convergent-F	ACGAGCACTTACAGACTTCAA	719
	circClptm1-convergent-R	TTCCAGCAGAGCAACCTTCAC	
	circClptm1-divergent-F	GGCTCCATCTATATCCATGTCTA	277
	circClptm1-divergent-R	GCCTTGAAGTCTGTGAAGTG	
circLerk1	circLerk1-convergent-F	GTTGTCGGATGCAGCCATATTGAG	178
	circLerk1-convergent-R	CTCCTTACAGTTGTCCAGCTCCTT	
	circLerk1-divergent-F	ACCGTACAGGAAGAGCTGACAACA	229
	circLerk1-divergent-R	TGAAGTCTCAACCCAAGTGCCCTCT	
circLin9	circLin9-convergent-F	CAGCAACGATGTCAACACCAGAT	266
	circLin9-convergent-R	TGCAGAAGAACATCTCCGAGGTT	
	circLin9-divergent-F	CCCGATGAAATCCCCTCTACCC	291
	circLin9-divergent-R	AGTGGCTTGTCTATGTTTGAGTAG	
circNbas	circNbas-convergent-F	GCCACCTATCCAGATGCCTTG	532
	circNbas-convergent-R	GCTTGCCATCCTCCTCACTC	
	circNbas-divergent-F	GCCTCAGAGACAGAAGCCTTG	972
	circNbas-divergent-R	ACCGTGACAGATCGTAGAAGTAAC	
circRsph1	circRsph1-convergent-F	CGCAATGAGGTGGGAGAACGAC	191
	circRsph1-convergent-R	AAGGTGCCCTGGCCGTGCTT	
	circRsph1-divergent-F	CACGGCCAAGGCACCTTTATCTA	113
	circRsph1-divergent-R	CGTTGGGCAGTCGTGCTTTC	
circSmarcc2	circSmarcc2-convergent-F	GCCAACCAACAAGTCTCTGTCCAG	234
	circSmarcc2-convergent-R	ACATTGCGGTCCATGCGTGATG	
	circSmarcc2-divergent-F	GAACCTAGAAGAAGTACATACAAGCAGAAC	265
	circSmarcc2-divergent-R	ACATTGCGGTCCATGCGTGAT	
circZnf2	circZnf2-convergent-F	TACGGCTCACAGGACTCAGT	393
	circZnf2-convergent-R	GTGCTCTGGACAAGATCTATTGAC	
	circZnf2-divergent-F	CAATATGCCTTGAAGAAGTCT	554
	circZnf2-divergent-R	TACTCAGCACATCCTCATT	

**2. Primer sets used in PCR analyses of mice genotypes**

<b>Mouse name</b>	<b>Primer name</b>	<b>Primer sequence(5'-3')</b>	<b>Expected product size (bp)</b>
Rsrc1 <sup>-/-</sup> /circRsrc1 <sup>+/+</sup>	Rsrc1 <sup>-/-</sup> /circRsrc1 <sup>+/+</sup> -F	TTTCTGCTGGTTCTGTGGGATTCC	773
	Rsrc1 <sup>-/-</sup> /circRsrc1 <sup>+/+</sup> -R	AAACATGCAAGCCCTGACCTTCTT	
Rsrc1 <sup>+/+</sup> /circRsrc1 <sup>-/-</sup>	Rsrc1 <sup>+/+</sup> /circRsrc1 <sup>-/-</sup> -5+3 arm-F	GTACAGCCTCAGTAATAGTGTGAC	621
	Rsrc1 <sup>+/+</sup> /circRsrc1 <sup>-/-</sup> -5+3 arm-R	GTCTTTGCCTTTATCCTTCTCCTT	
Rsrc1 <sup>+/+</sup> /circRsrc1 <sup>-/-</sup>	Rsrc1 <sup>+/+</sup> /circRsrc1 <sup>-/-</sup> -5 arm-F	TGGTCTCTCAAGGTCACCTCT	717

	Rsrc1+/+/circRsrc1/--5 arm-R	AGATGAGCAGGGTCCAATGAGAAA	
	Rsrc1+/+/circRsrc1/--3 arm-F	GGCTTCTACTTGCTTACCTGTGTT	1653
	Rsrc1+/+/circRsrc1/--3 arm-R	TGTATCTCGCTTTGCCACTGTTAC	
Rsrc1-/-/circRsrc1-/-	Rsrc1-/-/circRsrc1-/-F	TGGTCCTCCTACAAGGTCCTCT	717
	Rsrc1-/-/circRsrc1-/-R	AGATGAGCAGGGTCCAATGAGAAA	

### 3. Primer sets used in RT-PCR and RT-qPCR analyses of mice testes

Primer name	Primer sequence(5'-3')	Expected product size (bp)
circRsrc1-F1	AGAAGTCGCAGTCGTTCAGG	128
circRsrc1-R1	TCCCTCTTGCTTCTGCTTTCCTCTT	
circRsrc1-F2	CAGAACCAGAAGAAATGGGACGC	166
circRsrc1-R2	CAGGACCTTGAGTCGGACCT	
Rsrc1-F	GTAGCAGGTCCAGGGACAGAGA	148
Rsrc1-R	GGAGGCAGATGTTCTAATCCAGCT	
U6-F	ACCCTGAGAAATACCCTCACAT	62
U6-R	GACGACTGAGCCCCTGATG	
Cox2-F	ACGAAATCAACAACCCCGTA	172
Cox2-R	GGCAGAACGACTCGGTTATC	
GAPDH-F	AGGTCGGTGTGAACGGATTTG	123
GAPDH-R	TGTAGACCATGTAGTTGAGGTCA	
18S-F	TAACGAACGAGACTCTGGCAT	138
18S-R	CGGACATCTAAGGGCATCACAG	

### 4. Primer sets used in RT-qPCR analyses of cell samples

Primer name	Primer sequence(5'-3')
circRsrc1-divergent-F	AAGAAGTCGCAGTCGTTCAG
circRsrc1-divergent-R	CAGGACCTTGAGTCGGACCT
circRsrc1-convergent-F	GAACCCGTAGCAGGTCAG
circRsrc1-convergent-R	CCAGAATCCCCGCGTTTGAT
Gapdh-F	AGGTCGGTGTGAACGGATTTG
Gapdh-R	TGTAGACCATGTAGTTGAGGTCA
Ndufa9-F	GTCCGCTTTCGGGTGTAGTA
Ndufa9-R	CCTCCTTTCGGGTGAGGTA
Sdha-F	GCGGTGGTCACCTTGATCC
Sdha-R	CCTCTGTAGAAGCGTCTGAATG
Uqcrls1-F	GAGCCACCTGTCTGGATGTG
Uqcrls1-R	GCACGACGATAGTCAGAGAAGTC
Atpb-F	GGTTCATCCTGCCAGAGACTA
Atpb-R	AATCCCTCATCGAACTGGACG
Vdac-F	CCCACATACGCCGATCTTGG
Vdac-R	GTGGTTTCCGTGTGGCAGA
Nd1-F	GGATCCGAGCATCTTATCCA
Nd1-R	GGTGGTACTCCGCTGTAAA
Nd2-F	AGGGATCCCACTGCACATAG
Nd2-R	CTCCTCATGCCCTATGAAA
Nd3-F	TTCGACCTACAAGCTCTGC
Nd3-R	TGAATTGCTCATGGTAGTGA

Nd4-F	CCACTGCTAATGCCCCTCAT
Nd4-R	CTTCAACATGGGCTTTTGGT
Nd5-F	TCCTACTGGTCCGATTCCAC
Nd5-R	TTTGATGTCGTTTTGGGTGA
Nd6-F	CGATCCACCAAACCCTAAAA
Nd6-R	TTGGTTGTCTTGGGTTAGCA
Cox1-F	GGTCAACCAGGTGCACCTTTT
Cox1-R	TGGGGCTCCGATTATTAGTG
Cox2-F	ACGAAATCAACAACCCCGTA
Cox2-R	GGCAGAACGACTCGGTATC
Cox3-F	CAAGGCCACCACACTCCTAT
Cox3-R	ATTCTGTGGAGGTCAGCA
Atp6-F	CCTTCCACAAGGAACCTCAA
Atp6-R	GGTAGCTGTTGGTGGGCTAA
Cytb-F	TGAGGGGGCTTCTCAGTAGA
Cytb-R	CTGTTTCGTGGAGGAAGAGG
18S-F	TAACGAACGAGACTCTGGCAT
18S-R	CGGACATCTAAGGGCATCACAG

#### 5. Primer sets used in RT-PCR analyses of cell samples

Primer name	Primer sequence(5'-3')	Expected product size (bp)
circRsrc1-convergent-F	GAACCCGTAGCAGGTCCAG	121
circRsrc1-convergent-R	CCAGAATCCCCGCGTTTGAT	
circRsrc1-divergent-F	AAGAAGTCGCAGTCGTCCAG	232
circRsrc1-divergent-R	CAGGACCTTGAGTCGGACCT	
18S-F	TAACGAACGAGACTCTGGCAT	138
18s-R	CGGACATCTAAGGGCATCACAG	
circRsrc1-F	AGAAGTCGCAGTCGTCCAGG	128
circRsrc1-R	TCCTCTTGCTTCTGCTTTCCTCTT	
Rsrc1-F	GTAGCAGGTCCAGGGACAGAGA	148
Rsrc1-R	GGAGGCAGATGTTCTAATCCAGCT	
GAPDH-F	AGGTCGGTGTGAACGGATTTG	123
GAPDH-R	TGTAGACCATGTAGTTGAGGTCA	

#### 6. Primer sets used in PCR analyses of cell genotypes

Primer name	Primer sequence(5'-3')	Expected product size (bp)
Rsrc1+/+/circRsrc1/-5+3 arm-F	GTTGGTCCTCCTACAAGGTCACT	685
Rsrc1+/+/circRsrc1/-5+3 arm-R	AGAGTCAGTAACACAGTGTGAGGT	
Rsrc1+/+/circRsrc1/-5 arm-F	GTACAGCCTCAGTAATAGTGTGAG	654
Rsrc1+/+/circRsrc1/-5 arm-R	CTTCCACCATCATCCAGAGAATG	
Rsrc1+/+/circRsrc1/-3 arm-F	GGGTCAATGTCATGTTTCAATCTCT	216
Rsrc1+/+/circRsrc1/-3 arm-R	ACAAACAGAGTCAGTAACACAGTG	

**Table S4. Antibodies and dilution concentrations**

Antibody	Supplier	RRID	Cat#	Dilution (WB)
HA	MBL	AB_10951811	M180-3	1:1000 IF, IP :1:100
$\beta$ -Tubulin	Abways	AB_10971396	AB0039	1:5000
Rsrc1	Invitrogen	AB_2720896	PA5-77169	1:1000
GAPDH	Abways	AB_10971398	AB0036	1:5000
C1QBP	Sino Biological	AB_2927404	50199-T62	1:1000 IF 1:500 IP 1:50
GFP	Abways	AB_2333135	AB0005	1:5000
GFP	EnoGene	AB_2927405	E12-026	IP, 1:50
Cdk1	Beyotime	AB_2927406	AF1516	1:1000
p-Cdk1(Tyr15)	Cell Signaling Technology	AB_2927409	4539T	1:1000
NDUFA9	Invitrogen	AB_1501787	459100	1:1000
SDHA	Invitrogen	AB_1607896	459200	1:5000
UQCRCF1	Invitrogen	AB_2725632	MA5-27471	1:1000
MTCO1	Invitrogen	AB_2532240	459600	1:1000
ATPB	Proteintech	AB_2061878	17247-1-AP	1:1000
VDAC	Cell Signaling Technology	AB_2927410	4866T	1:1000
MRPL3	Abcam	AB_2927411	ab151326	1:1000
MRPL28	Proteintech	AB_10859785	21604-1-AP	1:1000
MRPS22	Proteintech	AB_2146488	10984-1-AP	1:1000
MRPS29	BD Biosciences	AB_2927412	610662	1:1000
normal rabbit IgG	Beyotime	AB_2905533	A7016	IP, 1:50
normal rabbit IgG	Cell Signaling Technology	AB_1031062	2729S	IF, 1:100