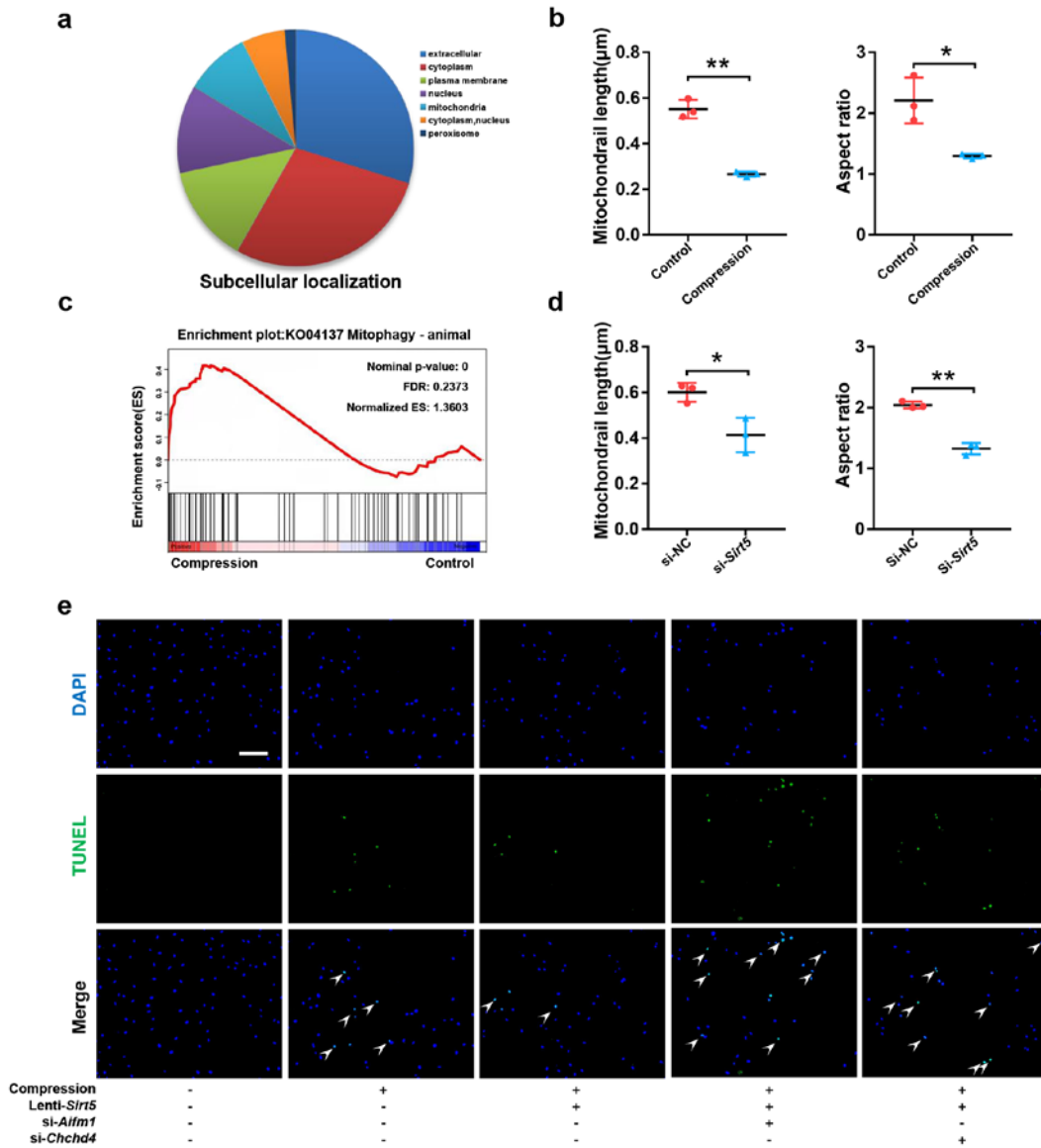


Supplementary figure and tables



Supplementary Fig. 1 a Subcellular localization of differentially expressed proteins derived from quantitative proteomics data. RNAseq analysis was performed in rat NP cells. b d Quantitative analysis of mitochondrial length and aspect ratio within NP cells (the average value of all mitochondria in the cell) among groups as indicated(n=3). c KEGG showed that mitophagy was enriched in NP cells under compression. e TUNEL staining of NP cells. Scale bar: 100 µm (n = 5). The data in the figures represent the mean ± S.D. * $P < 0.05$, ** $P < 0.01$.

Supplementary Table 1. Demographic data of patients.

Patients NO.	Age	Gender	Level	Pfirschmann grading
Grade II/III group				
1	45	M	L3/4	2
2	37	M	L4/5	3
3	51	F	L3/4	3
4	53	F	L4/5	2
5	34	F	L5/S1	2
6	57	M	L4/5	3
7	65	F	L3/4	3
8	43	M	L3/4	3
9	53	F	L4/5	3
10	29	M	L4/5	2
Grade IV/V group				
11	34	M	L5/S1	4
12	61	F	L4/5	4
13	42	F	L5/S1	5
14	59	F	L3/4	4
15	72	M	L5/S1	5
16	68	F	L4/5	5
17	54	M	L4/5	5
18	38	F	L4/5	4

Supplementary Table 2. primers of Genotype

Primer	Sequence (5'→3')	Primer Type
<i>Sirt5 Ko Mut</i>	TGCCTGGGGTTGGGGTGTG	Forward
	TGGTGGGGTCTGTGGGAGGAAC	Reverse
<i>Sirt5 Ko Wt</i>	CCAGTGGCAGGAAGAGC	Forward
	TGAGCCACATTGAACACAT	Reverse
Genotype	Ko=402bp Wt=605bp	

Supplementary Table 3. Sequences of siRNA

Name	sense (5'-3')	antisense (5'-3')
si- <i>Sirt5</i>	GCAAUGUUGCUGAGAACUATT	UAGUUCUCAGCAACAUGCTT
si- <i>Aifm1</i>	GGCUGGAAAUAGAUUCCGATT	UCGGAAUCUAUUUCCAGCCTT
si- <i>Chchd4</i>	GGAAGGAUCGAAUCAUAUUTT	AAUAUGAUUCGAUCCUUCCTT

Supplementary Table 4. Sequences of primers used for qRT-PCR

Gene (Rat)	Sequence (5'-3')	
<i>Sirt5</i>	Forward	CCTTTTGCAGCCTGCCC
	Reverse	TGCGTTCGCAAACACTTCC
<i>Atp5mg</i>	Forward	AAACGTGGCATTGTTGGCTA
	Reverse	CAGTGTAACAAAGCCAAAGACGA
<i>Map2k2</i>	Forward	TGCCAAGGAACTAGAGGCCA
	Reverse	CTGTCCATCCCATGACCACTG
<i>Oxct1</i>	Forward	TGTGCCTGCTACTTTTCCGT
	Reverse	CACAACCCGAAACCACCAAC
<i>Prdx3</i>	Forward	CACTCCGTTTGGTAAAGGCG
	Reverse	TGTTGGACTTGGCTTGATCGTA
<i>Pitrm1</i>	Forward	TACTGGGACAAGCCTAGGGA
	Reverse	CAAAACCTTTCTCTGGTAAGAGG