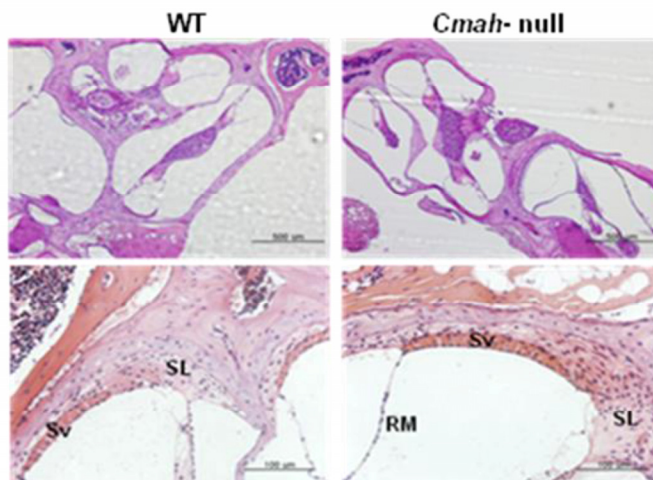


SUPPLEMENTARY INFORMATION



Supplementary Figure 1. Histological analysis in inner ear of WT- and *Cmah*-null mouse of 5 week-old. SL: Spiral lamina, Sv: Stria vascularis, RM: Reissner's membrane.

Supplementary Table 1. Primer sets for neuronal cell marker

Genes	Forward primer	Reverse primer	Product (bp)
<i>Gfap</i>	AGAAAACCGCATCACCATTC	TCACATCACCACGTCCTTGT	184
<i>Nse</i>	AGCCCTCATCAGCTCAGGTA	CTGAGCAATGTGGCGATAGA	184
<i>Nf</i>	GCCGAAGAGTGGTTCAAGAG	TGTCTGCATTCTGCTTGTCC	205
<i>Vim</i>	ATGCTTCTCTGGCACGTCTT	AGCCACGCTTTCATACTGCT	206

Supplementary Table 2. Primer sets used for identify molecular mechanisms of sirtuins, oxidative stress regulation, and Wnt signaling

Genes	Forward primer	Reverse primer	Product (bp)
<i>Sirt3</i>	TACAGGCCCAATGTCACTCA	ACAGACCGTGCATGTAGCTG	167
<i>Sirt4</i>	CGAGCAAAAGCTCCCAATAG	GTTCATTTCCAGCCTTTGGA	151
<i>Sirt5</i>	CCCAGAGCCAGAGACTCAAG	CAGAGGATGTTCCCACCACT	191
<i>Hif1a</i>	GCAGCAGGAATTGGAACATT	GCATGCTAAATCGGAGGGTA	150
<i>Foxo3a</i>	GGGGAGTTTGGTCAATCAGA	GCCTGAGAGAGAGTCCGAGA	193
<i>Foxo1</i>	GTGAACACCATGCCTCACAC	CACAGTCCAAGCGCTCAATA	211
<i>MnSod</i>	GGCCAAGGGAGATGTTACAA	CCTTGGACTCCCACAGACAT	213
<i>Lrp5</i>	GTGTGCAGTTGCAGGACAAT	CTCCAGGGGATCGTAGTCAA	176
<i>Lrp6</i>	GACAGACTGGGGAGAAGTGC	AACGTCAAGGCAAAAGGATG	234
<i>Wnt3a</i>	ATGGCTCCTCTCGGATACCT	GGGCATGATCTCCACGTAGT	192
<i>Wnt5a</i>	CAAATAGGCAGCCGAGAGAC	CTCTAGCGTCCACGAACTCC	217
<i>Gsk3β</i>	CAGTGGTGTGGATCAGTTGG	ATGTGCACAAGCTTCCAGTG	232
<i>Catenine</i>	ACAGGGTGCTATTCCACGAC	CTGCACAAACAATGGAATGG	217
<i>Cbr1</i>	AGTGGTGAATGTGTCCAGCA	CAGGACTGTCACCCCAATCT	211
<i>Imp1</i>	GGCATCCAAAGAGGTGACAT	ACATGACCTGTTGGCACGTA	155
<i>Mtfp1</i>	GCTGTGGTGTGGTTGAGCTA	ACACAGACGGTTGATGGTGA	198
<i>RhoT2</i>	CAGTTACCCGCGAGAAGAAG	GGCTGTCAGCATTCACTTCA	240
<i>CytoC</i>	TTCCACAACCCTCATGTGAA	TAAGGGTCCAAAACCAGTGC	109
<i>Soc1</i>	AGTGGCCTTGAAAGAAAGCA	GTAGCCTGCCCTTGCTATTG	79
<i>Soc2</i>	CCTTCGCTGAACTTGTCTC	CCCTAGAGCCAGTAGCATCG	100
<i>Atpase6</i>	CCTTCCACAAGGAACTCCAA	CCTTCCACAAGGAACTCCAA	187
<i>Atp5fl</i>	TCAGAAGCGCCATTACCTCT	TTGGCAATGGTCTCCTTTC	234