

	Resting potential (mV)	AP voltage threshold (mV)	AP half width (ms)	Input resistance (M Ω)	AP current threshold (pA)
<i>PvalbCre;Ai9</i> (WT)	-62.83 \pm 0.93	-35.61 \pm 1.01	0.728 \pm 0.05	78.2 \pm 16.82	741.66 \pm 202.68
<i>PvalbCre;Ai9;Piezo2^{ckO}</i>	-61.31 \pm 0.98	-29.48 \pm 2.88	0.922 \pm 0.074	182.89 \pm 23.09	411.25 \pm 86.68

Supplementary Table 1. Electrical properties of cultured tdTomato⁺ DRG neurons from *PvalbCre;Ai9* (WT) and *PvalbCre;Ai9;Piezo2^{ckO}* mice.

a

Measurement	<i>Piezo2^{fl/+}</i> (WT)	<i>PvalbCre;Piezo2^{ckO}</i>
Age (days)	65 ± 8	62 ± 4
Body weight (g)	24.6 ± 1.9	21.8 ± 2.9
Muscle weight (mg)	10.2 ± 0.7	10.1 ± 0.5
Lo (mm)	11.8 ± 0.7	11.9 ± 0.8
Muscle cross sectional area (cm ²)	8.2 ± 0.4	8.4 ± 0.8
Maximal tetanic contractile force (N/cm ²)	17.4 ± 3.5	16.4 ± 4.5

b

Measurement	<i>Piezo2^{fl/+}</i> (WT)	<i>HoxB8Cre;Piezo2^{ckO}</i>
Age (days)	88 ± 11	80 ± 12
Body weight (g)	25.6 ± 1.2	23.1 ± 0.8*
Muscle weight (mg)	9.5 ± 1.1	10.7 ± 0.8*
Lo (mm)	12.2 ± 0.8	11.3 ± 1.2
Muscle cross sectional area (cm ²)	7.4 ± 1.2	9.0 ± 1.2*
Maximal tetanic contractile force (N/cm ²)	18.9 ± 7.8	18.6 ± 6.3

Supplementary Table 2. Properties of *PvalbCre;Piezo2^{ckO}* and *HoxB8Cre;Piezo2^{ckO}* mice used for *ex vivo* muscle-nerve recordings.

a, No values are significantly different between groups with Independent *t*-test.

Mouse numbers = 4 *PvalbCre;Piezo2^{ckO}* and 3 WT animals; Muscle numbers = 8 *PvalbCre;Piezo2^{ckO}* and 5 WT muscles.

b, * denotes $p < 0.05$ from WT from Independent *t*-test.

Mouse numbers = 4 *HoxB8Cre;Piezo2^{ckO}* and 5 WT animals; Muscle numbers = 8 *HoxB8Cre;Piezo2^{ckO}* and 10 WT muscles.