

S1 Table. Comparison of mean gender differences.

Figure (description; unit)	Scn11a ^{+/+} (mean ± SEM)		Scn11a ^{+L799P} (mean ± SEM)	
	female Scn11a ^{+/+} (n)	male Scn11a ^{+/+} (n)	female Scn11a ^{+L799P} (n)	male Scn11a ^{+L799P} (n)
1A (Scratching, mature mice; bouts/60 min)	4.54 ± 1.31		3.00 ± 0.74	
	6.86 ± 2.06 (6)	1.83 ± 0.54 (7)	1.75 ± 1.11 (4)	3.56 ± 0.92 (9)
1A (Scratching, middle-aged mice; bouts/60 min)	3.88 ± 1.27		13.86 ± 4.33	
	7.00 ± 0 (2)	2.83 ± 1.27 (6)	6.00 ± 0 (1)	15.17 ± 4.88 (6)
1B (Grooming, middle-aged mice; chains/60 min)	25.22 ± 2.69		28.13 ± 2.30	
	30.67 ± 6.12 (3)	22.50 ± 2.32 (6)	28.00 ± 1.00 (2)	28.17 ± 3.13 (6)
2A (CGRP ⁺ neurons, middle-aged mice; %)	35.02 ± 0.92		34.26 ± 2.59	
	35.95 ± 0.87 (4)	32.50 (1)	34.95 ± 4.35 (2)	33.98 ± 3.48 (5)
2E (CGRP release, mature mice; pg/ml) <i>0 M Capsaicin</i>	25.15 ± 2.61		-	
	21.40 ± 3.50 (2)	28.90 ± 0.60 (2)	-	-
2E (CGRP release, mature mice; pg/ml) <i>10⁻⁸ M Capsaicin</i>	35.33 ± 2.79		-	
	33.30 ± 5.70 (2)	37.35 ± 2.45 (2)	-	-

Supplement Table 1 continued

Figure (description; unit)	Scn11a ^{+/+} (mean ± SEM)		Scn11a ^{+/^{L799P}} (mean ± SEM)	
	female Scn11a ^{+/+} (n)	male Scn11a ^{+/+} (n)	female Scn11a ^{+/^{L799P}} (n)	male Scn11a ^{+/^{L799P}} (n)
2E (CGRP release, mature mice; pg/ml) <i>10⁻⁷ M Capsaicin</i>	66.13 ± 8.91		-	
	60.15 ± 13.65 (2)	72.10 ± 14.80 (2)	-	-
2E (CGRP release, mature mice; pg/ml) <i>10⁻⁶ M Capsaicin</i>	378.8 ± 20.62		-	
	378.8 ± 20.62 (6)	-	-	-
2F (CGRP release, mature mice; pg/ml) <i>Baseline (BL) release</i>	26.60 ± 2.06		11.01 ± 1.11	
	28.13 ± 2.53 (15)	22.77 ± 3.26 (6)	- (0)	28.13 ± 2.53 (15)
2F (CGRP release, mature mice; pg/ml) <i>Release after Capsaicin (CAPS)</i>	49.98 ± 6.16		12.40 ± 2.74	
	48.07 ± 6.96 (7)	53.33 ± 13.14 (4)	- (0)	48.07 ± 6.96 (7)
2F (CGRP release, mature mice; pg/ml) <i>Release after Washout</i>	3.58 ± 1.40		0.05 ± 0.05	
	3.30 ± 2.03 (7)	4.08 ± 1.85 (4)	- (0)	3.30 ± 2.03 (7)
3A (<i>B. subtilis</i> in faeces, mature mice; log CFU/ ml) <i>0h after application</i>	0		0.10 ± 0.10	
	0 (5)	0 (5)	0.20 ± 0.20 (5)	0 (5)

Supplement Table 1 continued

Figure (description; unit)	Scn11a ^{+/+} (mean ± SEM)		Scn11a ^{+/^{L799P}} (mean ± SEM)	
	female Scn11a ^{+/+} (n)	male Scn11a ^{+/+} (n)	female Scn11a ^{+/^{L799P}} (n)	male Scn11a ^{+/^{L799P}} (n)
3A (B. subtilis in faeces, mature mice; log CFU/ ml) <i>3h after application</i>	3.54 ± 0.54		4.46 ± 0.52	
	2.79 ± 0.88 (5)	4.29 ± 0.50 (5)	4.82 ± 0.15 (5)	4.10 ± 1.06 (5)
3A (B. subtilis in faeces, mature mice; log CFU/ ml) <i>6h after application</i>	5.87 ± 0.17		5.71 ± 0.21	
	5.99 ± 0.19 (5)	5.75 ± 0.29 (5)	5.74 ± 0.29 (5)	5.67 ± 0.34 (5)
3A (B. subtilis in faeces, mature mice; log CFU/ ml) <i>9h after application</i>	5.57 ± 0.14		5.52 ± 0.13	
	5.77 ± 0.13 (5)	5.38 ± 0.23 (5)	5.49 ± 0.21 (5)	5.55 ± 0.17 (5)
3A (B. subtilis in faeces, mature mice; log CFU/ ml) <i>15h after application</i>	5.04 ± 0.22		5.04 ± 0.25	
	5.02 ± 0.32 (5)	5.06 ± 0.33 (5)	4.85 ± 0.39 (5)	5.23 ± 0.47 (5)
3A (B. subtilis in faeces, mature mice; log CFU/ ml) <i>24h after application</i>	3.95 ± 0.34		3.44 ± 0.39	
	3.93 ± 0.47 (5)	3.97 ± 0.54 (5)	3.16 ± 0.65 (5)	3.72 ± 0.47 (5)
3B (Mean transit time, mature mice; h)	11.10 ± 0.24		10.53 ± 0.25	
	11.33 ± 0.42 (5)	10.88 ± 0.23 (5)	10.10 ± 0.39 (5)	10.95 ± 0.22 (5)

Supplement Table 1 continued

Figure (description; unit)	Scn11a ^{+/+} (mean ± SEM)		Scn11a ^{+/^{L799P}} (mean ± SEM)	
	female Scn11a ^{+/+} (n)	male Scn11a ^{+/+} (n)	female Scn11a ^{+/^{L799P}} (n)	male Scn11a ^{+/^{L799P}} (n)
4A (Grip strength, mature mice; g)	63.19 ± 2.24		55.93 ± 3.90	
	62.67 ± 3.00 (7)	64.10 ± 3.79 (4)	48.13 ± 5.92 (5)	62.43 ± 3.72 (6)
4A (Grip strength, middle-aged mice; g)	48.21 ± 5.00		29.68 ± 3.93	
	42.10 (1)	49.09 ± 5.68 (7)	19.00 (1)	31.21 ± 4.18 (7)
4B (Body weight, mature mice; g)	25.04 ± 1.16		24.55 ± 0.88	
	22.71 ± 0.63 (7)	29.13 ± 1.48 (4)	21.80 ± 0.58 (5)	26.83 ± 0.57 (6)
4B (Body weight, middle-aged mice; g)	30.38 ± 0.17		31.36 ± 1.36	
	30.30 (1)	30.39 ± 0.20 (7)	25.70 (1)	32.17 ± 1.26 (7)
4C (Slow type myosin isoform, middle-aged mice; ‰)	8.47 ± 3.13		4.31 ± 1.16	
	22.73 (1)	5.62 ± 1.59 (5)	3.44 ± 1.51 (3)	5.19 ± 1.93 (3)
4C (Fast type myosin isoform, middle-aged mice; ‰)	991.53 ± 3.13		995.69 ± 1.16	
	977.27 (1)	994.38 ± 1.59 (5)	996.56 ± 1.51 (3)	994.81 ± 1.93 (3)

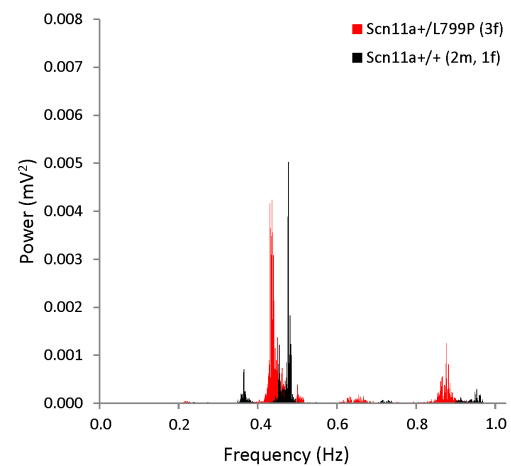
Supplement Table 1 continued

Figure (description; unit)	Scn11a^{+/+} (mean ± SEM)		Scn11a^{+/L799P} (mean ± SEM)	
	female Scn11a^{+/+} (n)	male Scn11a^{+/+} (n)	female Scn11a^{+/L799P} (n)	male Scn11a^{+/L799P} (n)
5A (Ladder climbing missteps, middle-aged mice; %)	1.94 ± 0.66		2.44 ± 0.46	
	1.34 (1)	2.06 ± 0.80 (5)	1.69 (1)	2.59 ± 0.53 (5)
5B (Foot-base-angle, middle-aged mice; °)	62.68 ± 1.15		60.55 ± 1.37	
	61.80 (1)	62.83 ± 1.35 (6)	64.11 ± 3.27 (2)	59.36 ± 1.30 (6)
5D (Knee joint diameter, mature mice; mm)	4.75 ± 0.04		4.67 ± 0.04	
	4.51 ± 0.04 (20)	4.99 ± 0.02 (20)	4.49 ± 0.03 (20)	4.85 ± 0.05 (20)
5E (Metatarsal joint diameter, mature mice; mm)	1.66 ± 0.02		1.71 ± 0.02	
	1.60 ± 0.02 (20)	1.73 ± 0.02 (20)	1.67 ± 0.03 (20)	1.76 ± 0.03 (20)
5F (Elbow joint diameter, mature mice; mm)	3.53 ± 0.03		3.41 ± 0.03	
	3.40 ± 0.02 (20)	3.67 ± 0.03	3.30 ± 0.02 (20)	3.52 ± 0.04 (20)
5G (Metacarpal joint diameter, mature mice; mm)	1.58 ± 0.01		1.54 ± 0.02	
	1.54 ± 0.02 (20)	1.62 ± 0.02 (20)	1.49 ± 0.03 (20)	1.59 ± 0.03 (20)

Supplement Table 1 continued

Power spectra of field potential recordings of the Tunica muscularis of the small intestine as shown in Figure 3D. (A) Both genotypes and all genders included are displayed. (B) Power spectra of *Scn11a*^{+/+} mice are divided for male and female mice. *m* male, *f* female

A



B

