



		LoxP/+		HSA-Vangl2^{-/-}	
		Mean	SEM	Mean	SEM
Phrenic nerve stimulation (indirect stimulation)					
Twitch force	Peak amplitude (mN)	167.50	31.96	82.17*	13.85
	Specific force (mN/mg)	3.31	0.73	1.25*	0.30
Tetanic force (20Hz)	Peak amplitude (mN)	496.20	60.25	195.90**	31.91
	Specific force (mN/mg)	9.69	1.99	3.50*	0.95
	Tetanus/twitch ratio	3.52	0.28	2.42*	0.24
Tetanic force (40Hz)	Peak amplitude (mN)	521.40	65.88	212.70**	32.01
	Specific force (mN/mg)	10.36	2.36	4.25*	0.97
	Time to peak (ms)	4.11	0.37	3.03	0.47
Tetanic force (60Hz)	Peak amplitude (mN)	457.00	54.28	201.30**	32.88
	Specific force (mN/mg)	8.92	2.02	4.02*	1.05
	Time to peak (ms)	3.96	0.42	2.79	0.36
Tetanic force (80Hz)	Peak amplitude (mN)	372.40	45.17	230.00*	29.31
	Specific force (mN/mg)	7.14	1.56	4.85	0.86
	Time to peak (ms)	3.66	0.44	3.21	0.51
Muscle stimulation (direct stimulation)					
Twitch force	Peak amplitude (mN)	109.60	17.56	115.60	34.75
	Specific force (mN/mg)	2.46	0.43	2.26	0.94
Tetanic force (20Hz)	Peak amplitude (mN)	382.70	54.15	275.20	62.65
	Specific force (mN/mg)	7.66	1.72	4.46	1.40
	Time to peak (ms)	3.94	0.27	3.18	0.17
Tetanic force (40Hz)	Peak amplitude (mN)	450.40	53.89	376.40	74.72
	Specific force (mN/mg)	9.06	1.90	6.94	2.25
	Time to peak (ms)	4.65	0.42	4.02	0.28
Tetanic force (60Hz)	Peak amplitude (mN)	410.30	48.65	369.60	71.52
	Specific force (mN/mg)	8.32	1.79	6.89	2.21
	Time to peak (ms)	4.38	0.46	4.04	0.29
Tetanic force (80Hz)	Peak amplitude (mN)	385.40	43.67	328.70	77.19
	Specific force (mN/mg)	6.59	1.15	7.29	1.98
	Time to peak (ms)	3.88	0.43	3.74	0.28

Table 1. Muscle tension parameters in *LoxP/+* and *HSA-Vangl2^{-/-}* mouse hemidiaphragms.

Supplemental Figure 1. Reduced aneural AChR clusters in *Vangl2*^{-/-} mouse embryos

A. Representative confocal images of whole-mount left hemidiaphragms from E13.5 control and *Vangl2*^{-/-} mouse embryos stained with α -BTX (green, AChR), anti-neurofilament (red, NF, phrenic nerve) and anti-synaptophysin antibodies (red, Syn, nerve terminals). Scale bars in the merged images, 20 μ m. **B-C.** Quantitative analysis of the number of AChR cluster (B) and mean neurite length (C). Data are means \pm SEM, ns, non-significant; * $p < 0.05$, $N = 3$ embryos per genotype, Mann-Whitney U test.