

**Table S2-** Summary of genes related to neuron function and that overlap with genomic regions with significant low  $\hat{\theta}_w$ .

<b>Position (Mb)</b>	<b>Breed</b>	$\hat{\theta}_w$ ( $\times 10^{-4}$ )	<b>95% CI</b> ( $\times 10^{-3}$ )	<b>Overlapping gene</b>
SSC12:15-15.5	Landrace	6.45	1.1-2.7	<i>PPP1R1B</i>
	Duroc	5.69	1.0-2.7	
	Large White	8.0	1.1-2.9	
SSC2:94.5-95	Landrace	9.81	1.4-3.8	<i>LRRTM2</i>
	Pietrain	10.4	1.4-3.5	
	Large White	13.6	1.4-4.0	
SSC12:8.5-9	Landrace	6.8	1.0-2.7	<i>CACGN4</i>
	Pietrain	10.5	1.2-2.6	
SSC10:30.5-31	Landrace	5.2	0.9-2.8	<i>LINGO2</i>
SSC11:39-39.5	Pietrain	4.6	0.8-2.5	<i>CLN5</i>
	Large White	5.9	0.7-2.6	
SSC14:54-54.5	Pietrain	3.5	0.7-2.0	<i>HRK</i>
	Duroc	4.5	0.4-1.9	
SSC5:19-19.5	Large White	6.2	0.9-3.2	<i>KIF5A</i>
SSCX:6-6.5	Pietrain	1.9	0.5-2.2	<i>GPM6B</i>
	Large White	1.8	0.3-2.4	
SSC6:19-19.5	Landrace	5.8	0.8-2.3	<i>CACNG6</i>
	Duroc	8.1	0.9-2.7	
	Landrace	5.8	0.8-2.3	<i>CACGN8</i>
	Duroc	8.1	0.9-2.7	
	Landrace	10.5	1.2-2.9	<i>CACGN7</i>

	Duroc	8.1	0.9-2.7	
SSC3:35.5-36	Landrace	3.2	0.8-2.3	<i>LRRTM4</i>
	Pietrain	4.9	0.5-1.9	
SSC12:35.5-36	Landrace	10.5	1.2-2.9	<i>ENO2</i>
SSC7:58-58.5	Duroc	4.1	0.5-2.3	<i>AP3B2</i>
SSCX:61-61.5	Landrace	0	0.1-1.8	<i>DCX</i>
SSC4:44-44.5	Landrace	3.7	0.5-2.1	<i>NECAB1</i>
	Large White	3.6	0.4-2	
SSCX:6-6.5	Pietrain	2.0	0.4-2.2	<i>GPM6B</i>
	Duroc	2.1	0.2-1.9	
SSC7:81-81.5	Landrace	4.2	0.5-2.2	<i>CPNE6</i>
	Large White	7.0	0.7-2.8	
SSC14:127-127.5	Large White	5.7	0.7-2.5	<i>SMNDC1</i>
	Duroc	6.6	0.7-2.4	
SSC1:228-228.5	Duroc	2.8	0.4-2.1	<i>NR4A3</i>
SSC5:2.5-3	Large White	9.7	1.0-3.5	<i>SEPT3</i>
SSC3:2.5-3	Pietrain	11.9	1.2-2.9	<i>LRCH4</i>
SSC7:104.5-105	Duroc	7.4	0.7-2.8	<i>PNMA1</i>
SSC7:79-79.5	Pietrain	6.6	0.7-2.4	<i>NOVA1</i>
SSC1:	Landrace			<i>TMOD2</i>

**Table S2-** Summary of genes related to brain function and that overlap with genomic regions with significant low  $\hat{\theta}_w$ .

<b>Position (Mb)</b>	<b>Breed</b>	$\hat{\theta}_w$ ( $\times 10^{-4}$ )	<b>95% CI (<math>\times 10^{-3}</math>)</b>	<b>Overlapping gene</b>
SSC3:43.5-44	Landrace	2.2	0.8-2.7	<i>TTBK1</i>
	Pietrain	7.1	0.9-2.7	
SSC2:44.5-45	Landrace	2.0	0.6-2.2	<i>TMEM59L</i>
	Large White	4.9	0.6-2.3	
	Pietrain	6.0	0.6-1.8	
SSC12:13-13.5	Landrace	7.1	1.0-2.6	<i>KCNH4</i>
	Duroc	8.1	1.0-2.6	
SSC4:81.5-82	Duroc	1.4	0.4-2.1	<i>BRP44</i>
	Large White	3.6	0.4-2.2	
	Landrace	4.0	0.4-1.9	
SSC2:22.5-23	Duroc	4.3	0.7-2.6	<i>BDNF</i>
SSC13:132-132.5	Duroc	6.0	0.8-2.9	<i>DYRK1A</i>
SSC12:24-24.5	Duroc	7.6	0.9-2.6	<i>SEPT4</i>
	Large White	10	1.1-2.8	
SSC13:23.5-24	Pietrain	6.5	0.8-2.3	<i>CSPG5</i>
	Duroc	5.8	0.7-2.6	
SSC7:43.5-44	Pietrain	7.1	0.9-2.6	<i>TTBK1</i>
SSC8:54-54.5	Duroc	5.6	0.7-2.9	<i>POU4F2</i>
SSC15:53.5-54	Pietrain	0	0.2-1.1	<i>TBR1</i>
SSC15:56.5-57	Large White	0	0.2-1.5	<i>SCN1A, SCN2A,</i>
	Duroc	2.2	0.4-1.9	<i>SCN3A</i>

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SSC2:44.5-45	Large White	4.9	0.6-2.4	<i>TMEM59L</i>
	Pietrain	6.0	0.6-1.9	
SSC5:3-3.5	Pietrain	9.7	1.1-2.9	<i>L3MBTL2</i>
SSC5:10.5-11	Duroc	6.0	0.7-2.7	<i>RIC8B</i>
SSC5:5.5-6	Large White	8.7	0.9-3.3	<i>BAIAP2L2</i>
SSC9:104.5-105	Duroc	8.8	0.9-3.0	<i>VWC2</i>
SSCX:23.5-24	Pietrain	1.5	0.2-1.4	<i>TMEM47</i>
SSC7:81.5-82	Landrace	6.0	0.5-2.3	<i>SLC22A17</i>

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