

**Table S1. Decreased g-ratios in CNS axons of *Itgb1-CNSko* and *Itgb1-OL-ko* mice**

Fiber	Axon diameter ( $\mu\text{m}$ )	G-ratio		Mann-Whitney
		WT (n)	MT (n)	
Spinal cord	0.6-0.7	0.714 $\pm$ 0.005 (128)	0.708 $\pm$ 0.008 (136)	$P=0.5533$
	0.71-1.1	0.741 $\pm$ 0.003 (488)	0.754 $\pm$ 0.003 (519)	** $P=0.0023$
	1.11-2.5	0.765 $\pm$ 0.002 (594)	0.794 $\pm$ 0.002 (810)	*** $P=0.0001$
	>2.5	0.787 $\pm$ 0.003 (278)	0.818 $\pm$ 0.003 (313)	*** $P=0.0001$
Optic nerves	0.6-1.0	0.756 $\pm$ 0.002 (579)	0.758 $\pm$ 0.003 (483)	$P=0.5783$
	1.1-1.5	0.798 $\pm$ 0.002 (447)	0.805 $\pm$ 0.003 (329)	* $P=0.0422$
	1.51-2.0	0.820 $\pm$ 0.003 (158)	0.835 $\pm$ 0.004 (129)	** $P=0.0017$
	>2.1	0.828 $\pm$ 0.005 (49)	0.856 $\pm$ 0.004 (69)	*** $P=0.0001$
Cerebellum	0.6-0.7	0.717 $\pm$ 0.011 (33)	0.731 $\pm$ 0.019 (17)	$P=0.4892$
	0.71-1.2	0.741 $\pm$ 0.006 (93)	0.758 $\pm$ 0.007 (88)	$P=0.0584$
	>1.2	0.763 $\pm$ 0.009 (30)	0.801 $\pm$ 0.054 (31)	** $P=0.005$
Spinal cord ( <i>Ng2-Cre</i> )	0.6-0.7	0.745 $\pm$ 0.007 (72)	0.768 $\pm$ 0.007 (33)	$P=0.0532$
	0.71-1.1	0.759 $\pm$ 0.003 (290)	0.785 $\pm$ 0.003 (173)	*** $P=0.0001$
	1.11-2.5	0.762 $\pm$ 0.003 (369)	0.783 $\pm$ 0.003 (256)	*** $P=0.0001$
	>2.5	0.793 $\pm$ 0.002 (206)	0.799 $\pm$ 0.003 (129)	$P=0.1041$

G-ratio values for fibers grouped by axon diameter in spinal cords, optic nerves and cerebellum from *Itgb1* conditional knockout mice (MT) and WT littermates derived using nestin-*Cre*, and in mouse spinal cords derived using *Ng2-Cre*. Values are shown as mean $\pm$ s.e.m. The number of scored fibers in each group is also shown in parentheses. Statistical significance calculated using Mann-Whitney (rank sum) test is shown. In the spinal cords, optic nerves and cerebellum of mutant mice derived using nestin-*Cre* there was a significant increase in the g-ratio in the larger caliber fibers (spinal cords, cerebellum:  $n=3$  WT and  $n=3$  *Itgb1-CNSko* animals; optic nerves:  $n=2$  WT and  $n=2$  *Itgb1-CNSko* animals). In the spinal cords of mutant mice derived using *Ng2-Cre* there was a significant increase in the g-ratio in the majority of fibers (429 out of 591) with axons between 0.71 and 2.5  $\mu\text{m}$  in diameter (spinal cords *Ng2-Cre*:  $n=2$  WT and  $n=2$  *Itgb1-OL-ko* animals).