

# **Longitudinal outcomes of circumlimbal suture model induced chronic ocular hypertension in Sprague-Dawley albino rats**

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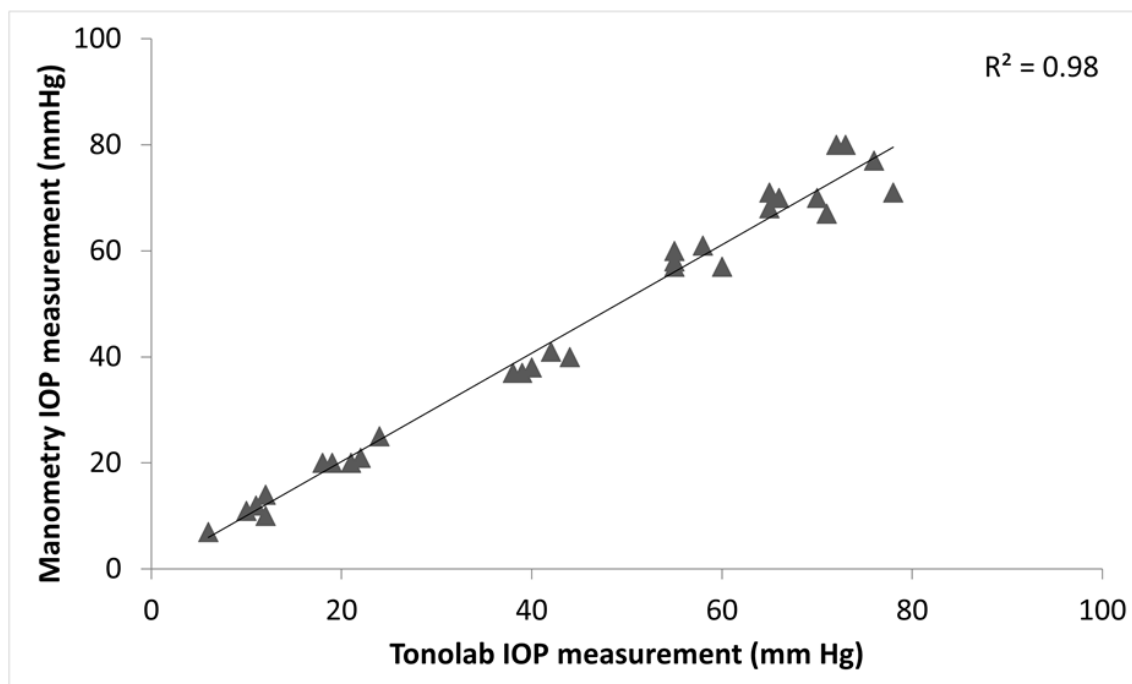
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## Electronic Supplementary Materials:

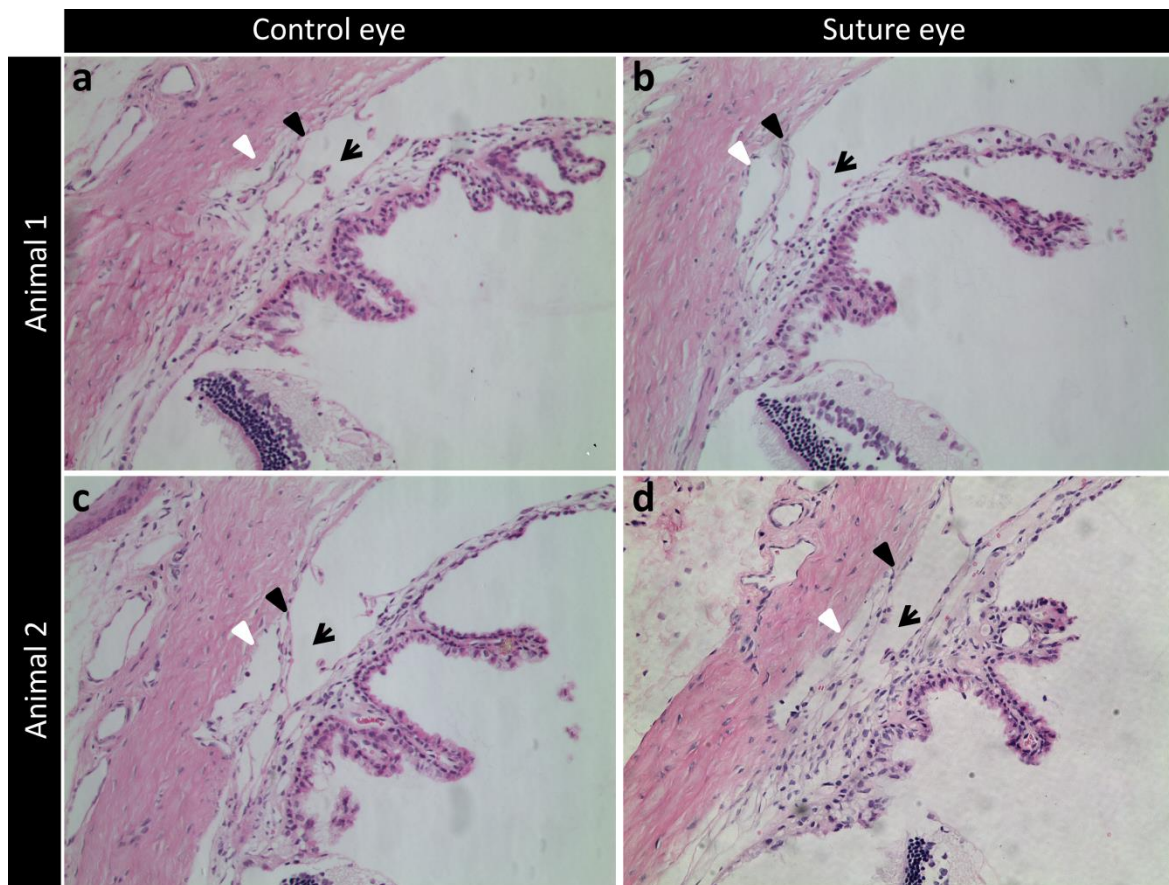
### Online resource 1



#### ESM\_1

Correlation between manometry and tonometry measured IOP reading in the sutured eyes. At the end of week 15 (before sacrificing the animals), under Ketamine-Xylazine anaesthesia, the anterior chamber of the suture eyes were cannulated using two 30G needle. One needle was attached to a tubing connected to a reservoir containing Hanks Balanced Salt solution via a pressure transducer and the other was connected to the pressure transducer to directly measure the manometry IOP. IOP was then increased to 10, 20, 40, 60, 70 and 80 mmHg and the corresponding manometry reading was documented from the pressure transducer. For each pressure step, a masked examiner measured the IOP using tonometry. The measurements of manometry and tonolab IOP readings showed a good correlation ( $R^2 = 0.95$ ) in the sutured eyes ( $n = 5$ ).

## Online resource 2



### ESM\_2

Morphology of anterior chamber and iridocorneal angle of sutured and control eyes at week 15. The structures of the Schlemm's canal (white triangle pointer), trabecular meshwork (black triangle pointer) and iridocorneal angle (black arrow) were similar in sutured (right column) and fellow control eyes (left column) under Hematoxylin and eosin-staining.

## **Online resource 3**

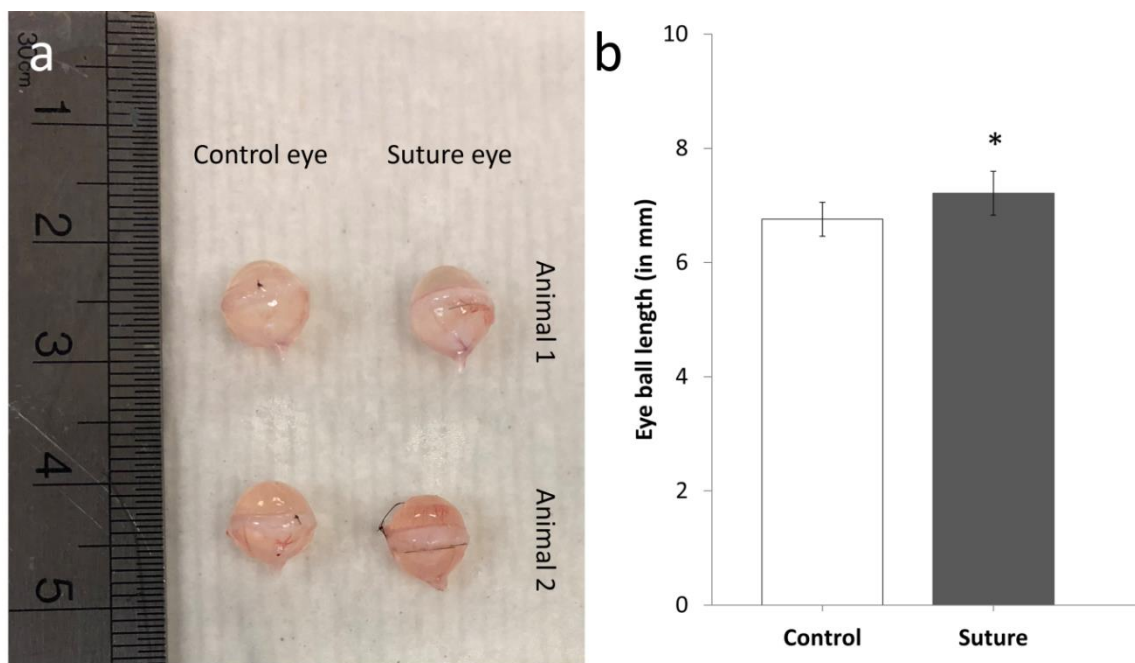
OCT measured retinal thicknesses from naïve animals over 15 weeks.

Timeline	Mean (SD) thicknesses in $\mu\text{m}$	
	TRT	RNFLT
<b>Baseline</b>	221.6 (6.0)	29.4 (2.3)
<b>Week 4</b>	215.2 (7.8)	25.5 (3.2)
<b>Week 8</b>	212.4 (4.7)	24.2 (1.4)
<b>Week 12</b>	208.1 (8.2)*	24.4 (1.1)*
<b>Week 15</b>	205.1 (5.9)*	25.6 (0.7)

### **ESM\_3**

Both TRT (RM ANOVA:  $p < 0.001$ ) and RNFL (RM ANOVA:  $p = 0.03$ ) from naïve animals ( $n = 4$ ) showed a gradual thinning over time. \*  $p < 0.05$  as compared with baseline using RM ANOVA with Bonferroni's post hoc test. TRT, Total retinal thickness; RNFLT, retinal nerve fibre layer thickness.

## Online resource 4



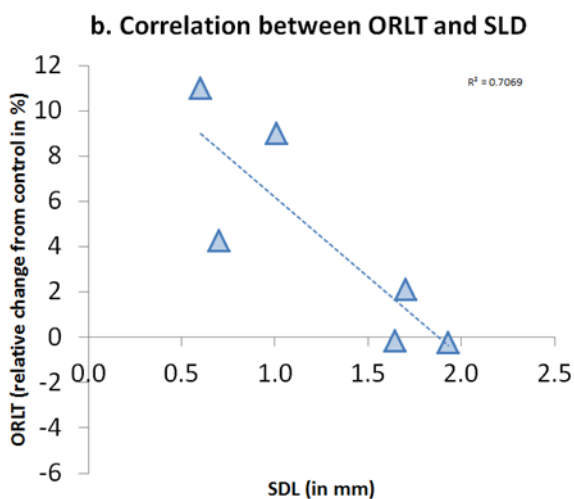
### ESM\_4

Morphology and length of sutured and control eyeballs at week 15. (a) Representative picture of enucleated eyeball from 2 animals collected at the end of week 15. (b) The eyeball length of suture and fellow control eyes were measured from the centre of the cornea to the start of the optic stump (n = 6). Length of sutured eyeballs were around 0.5mm longer than the control eyeballs ( $p = 0.002$ ). \*  $p < 0.05$ , paired t-test. Error bars: Standard deviation.

## Online resource 5

**a.**

	Pearson Correlation	p- value
SDL vs. Cumulative IOP	0.32	0.53
SDL vs. TRT	-0.77	0.07
SDL vs. RNFLT	-0.64	0.17
SDL vs. IRLT	-0.56	0.25
SDL vs. ORLT	<b>-0.84*</b>	<b>0.04</b>



### ESM\_5

The Influence of suture distance from limbus (SDL) on cumulative IOP and retinal thicknesses. Suture distance from limbus (SDL) was measured from post-mortem eyeballs (n=6 sutured eyes) collected at the end of week 15. (a) The correlation between SDL and cumulative IOP, and SDL and retinal thicknesses (relative changes from control eyes in %) were determined. While the correlation between SDL and retinal thickness (TRT, RNFLT, IRLT) showed an inverse relationship, none were found to be significant. However, ORLT showed a significant inverse correlation with SDL ( $r = -0.84$ ,  $p = 0.04$ ). (b) Scatterplot showing that as the SDL increased, the ORL showed less thickening when compared with the control eyes.