

Supplementary Table S1. Flow rate data of perfused human eyes. Values are in $\mu\text{l}/\text{min}$.

Eye Identifier	Treatment	Av. Baseline flow rate	Av. Flow rate after lentivirus application	Flow rate following 2x pressure	Flow rate following homeostatic response
2012-1311OS	shTNC	3.68	3.79	NA	NA
2012-0278OS	shTNC	5.16	5.21	NA	NA
2012-1305OD	shTNC	1.75	2.97	NA	NA
2012-0218OS	shTNC	4.00	4.02	NA	NA
2012-0225OS	shTNC	1.92	1.43	NA	NA
2012-1305OS	shCtrl	6.45	6.59	NA	NA
2012-0226OD	shCtrl	4.08	4.10	NA	NA
2012-0226OS	shCtrl	6.63	6.84	NA	NA
2012-1311OD	shCtrl	2.01	2.33	NA	NA
2009-0870OS	shCtrl	1.69	1.21	NA	NA
2009-0871OS	shCtrl	6.36	6.47	NA	NA
2012-1303OD	shTNC	4.7	4.6	5.8	11.2
2012-0651OS	shTNC	6.01	5.81	15.6	10.4
2012-0377OD	shTNC	1.84	1.35	2.18	4.97
2012-0377OS	shTNC	3.63	3.25	4.16	8.47
2012-1306OD	shCtrl	5.39	5.89	11.16	12.48
2012-1306OS	shCtrl	3.45	3.6	14.95	17.08
2012-0651OD	shCtrl	3.744	3.742	8.5	11.5

Supplementary Table S2. Flow rate data of perfused porcine eyes. Values are in $\mu\text{l}/\text{min}$.

Eye Identifier	Treatment	Av. Baseline flow rate	Av. Flow rate after lentivirus application	Flow rate following 2x pressure	Flow rate following homeostatic response
5 092112	shTNC	1.39	1.23	NA	NA
6	shTNC	1.60	1.53	NA	NA
7	shTNC	1.54	1.62	NA	NA
8	shTNC	2.72	2.72	NA	NA
10	shTNC	2.13	2.45	NA	NA
2 040612	shTNC	2.01	2.24	NA	NA
3	shTNC	2.24	2.50	NA	NA
6	shTNC	1.02	1.03	NA	NA
8	shTNC	1.33	1.38	NA	NA
9	shTNC	1.23	1.10	NA	NA
1 092112	shCtrl	2.35	2.27	NA	NA
2	shCtrl	1.40	1.004	NA	NA
3	shCtrl	3.81	2.29	NA	NA
4	shCtrl	2.11	2.50	NA	NA
4 040612	shCtrl	7.87	7.38	NA	NA
5	shCtrl	3.57	3.26	NA	NA
10	shCtrl	2.84	2.85	NA	NA
1 031612	shCtrl	2.98	3.14	NA	NA
5 091611	shCtrl	1.10	1.04	NA	NA
1 042712	shTNC	4.98	4.41	9.38	12.12
2	shTNC	3.05	3.23	6.3	7.06
3	shTNC	6.12	4.03	11.7	15.12
4	shTNC	7.93	3.16	7.97	19.65
7 101212	shTNC	1.98	2.37	10.4	16.96
8	shTNC	1.14	0.92	2.02	7.06
9	shTNC	2.58	3.36	12.42	15.03
10	shTNC	1.83	2.02	9.18	11.91
6 030411	shTNC	5.84	5.09	6.1	18.87
7	shTNC	3.64	2.83	11.55	13.17
9	shTNC	2.62	2.52	3.11	6.51
10	shTNC	7.35	4.99	9.88	16.61
1 101212	shCtrl	1.00	1.16	4.7	11.13
2	shCtrl	2.05	1.95	5.32	7.1
3	shCtrl	5.79	6.25	23.7	24.24
4	shCtrl	2.55	2.87	8.5	9.48
5	shCtrl	3.26	3.57	11.7	14.24
5 042712	shCtrl	3.72	2.79	14.4	19.3
6	shCtrl	1.34	1.25	3.12	5.31

7	shCtrl	3.62	2.91	8.82	15.5
8	shCtrl	2.41	2.39	5.35	5.63
1 030411	shCtrl	3.63	2.87	6.13	9.64
2	shCtrl	5.76	6.11	11.88	14.69
3	shCtrl	7.13	5.59	11.77	22.41