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Supplemental Information

Corneal fibrosis abrogation by a localized AAV-mediated *inhibitor of differentiation 3* (*Id3*) gene therapy in rabbit eyes *in vivo*

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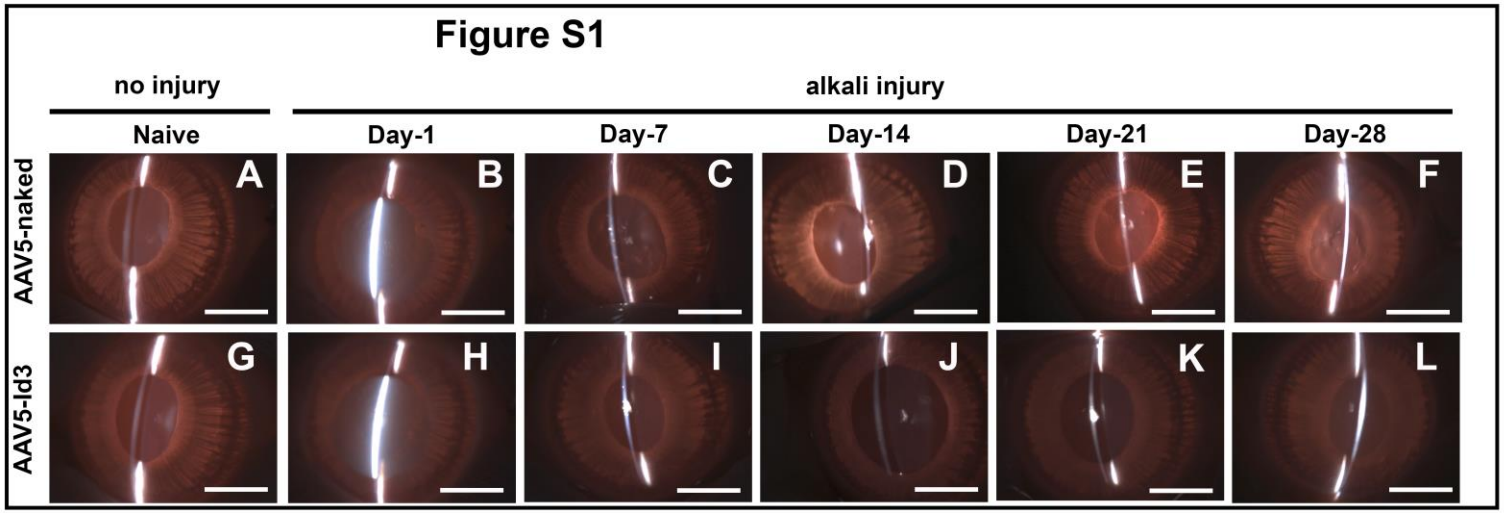

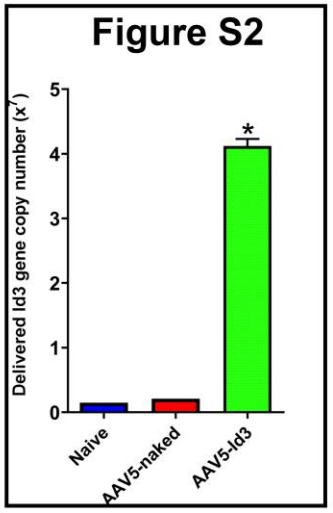

Figure S1. AAV5-Id3 gene therapy regulates corneal fibrosis and maintains corneal transparency. (A-F) The slit lamp microscopic images show the progress of alkali trauma in the AAV5-naked vector group in a time-dependent manner. (G-L) The slit-lamp microscopic images show the progress and efficacy of AAV5-Id3 gene therapy after alkali trauma in the AAV5-Id3 group in a time-dependent manner. The slit beam pattern in AAV5-Id3 group images shows that Inflammation and corneal scaring were reduced notably from day 7 onwards and much appreciable on day 28 to naïve corneal tissue. Scale bar = 3.0 mm.

Figure S2. AAV5-Id3 gene copies are retained in corneal tissue. The qRT-PCR analysis showed that efficient delivery of Id3 gene copies carried through AAV5 vectors was retained in corneal tissue via topical customized method after day -28. There were six samples in each group and error bars represent ± SEM. *$p<0.001$, and tissues were collected on day 28.

Table S1. The sequence of primers used in the study

Gene Name	Gene Abbreviation	Forward Primer (5’ to 3’)	Reverse Primer (5’ to 3’)
β-actin	β-actin	CGGCTACAGCTTCACCACCA	CAGGCAGCTCGTAGCTCTTC
α-Smooth muscle actin	α-SMA	TGGGTGACGAAGCACAGAGC	CTTCAGGGGCAACACGAAGC
Fibronectin	FN	CGCAGCTTCGAGATCAGTGC	TCGACGGGATCACACTTCCA
Collagen I	Col-I	TGTGGCCCAGAAGAACTGGTACAT	ACTGGAATCCATCGGTCATGCTCT
Collagen III	Col-III	TATCGAACACGCAAGGCTGTGAGA	GGCCAACGTCCACACCAAATTCTT
Transcription Factor-3	E2A	GCAGGGTCCTCATGAGAGTG	GGTAGGGCAGCAGTTTGT
Transcription Factor-4	E2-2	CCATCCAGGAACTATGGAGATG	GAAGAAGGAGCTAGGGAAAGTG
Transcription factor-12	HEB	GACCATACCAGCAGTAGTTTCC	GCCTTTCCTTCTCCCTTTCTATC
Id3-mCherry	Id3-MCH	CGCGTCATCGACTACATTCTC	CCCATGGTCTTCTTCTGCATT

The sequence of the forward and reverse primers was used in the study to confirm the mRNA expression of different proteins using PCR amplification.