



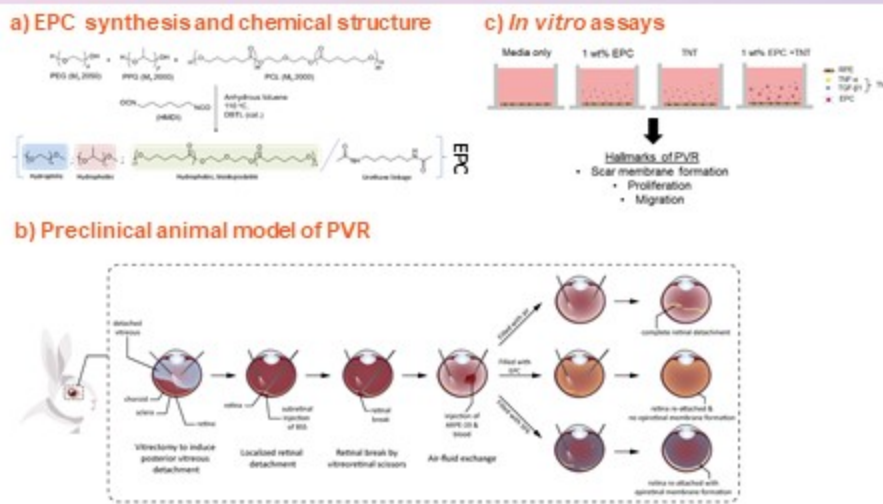
A Novel Approach for the Prevention of Retinal Scarring by a Polymer

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Purpose

- Retinal scarring, in the form of proliferative vitreoretinopathy (PVR), is the most frequent cause of post-operative failure after retinal detachment (RD) surgery.
- There are no approved pharmacologic adjuncts for the prevention or treatment of PVR. Therein lies an unmet clinical.
- Previous publications show that our thermogelling polymer (termed EPC) can act as an effective vitreous substitute.
- In this study, we investigate the polymer's **intrinsic anti-scarring property**.

Methodology



Results

Fig. 1 EPC prevents scarring and RD in vivo

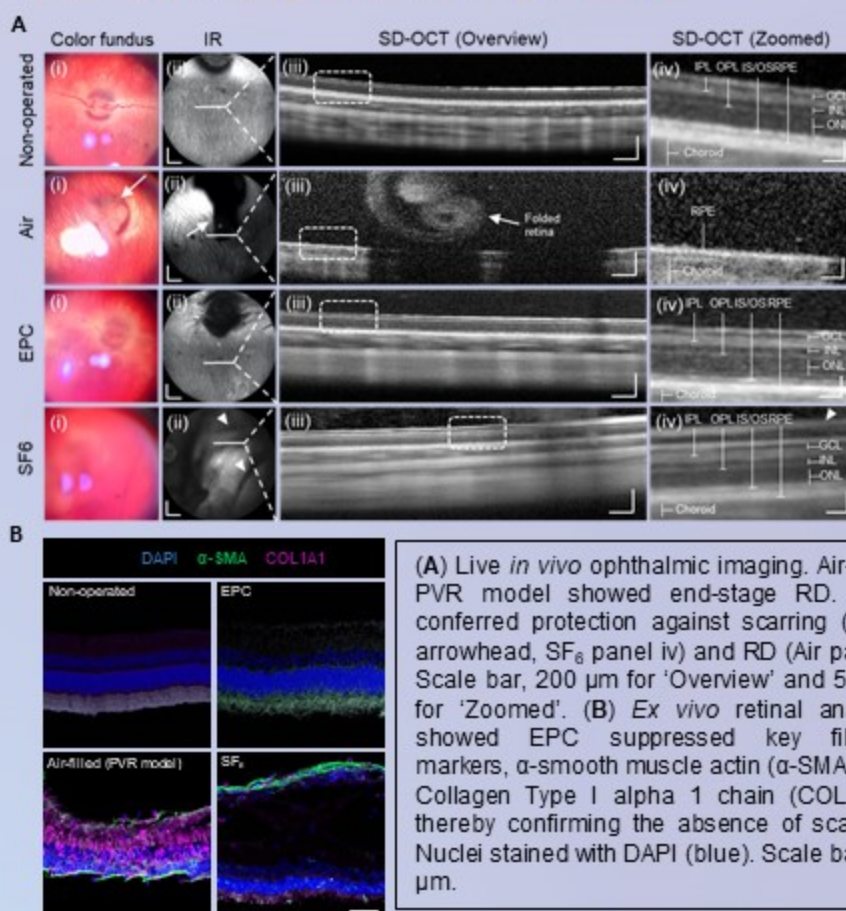


Fig. 2 EPC inhibits scar formation in an in vitro PVR model

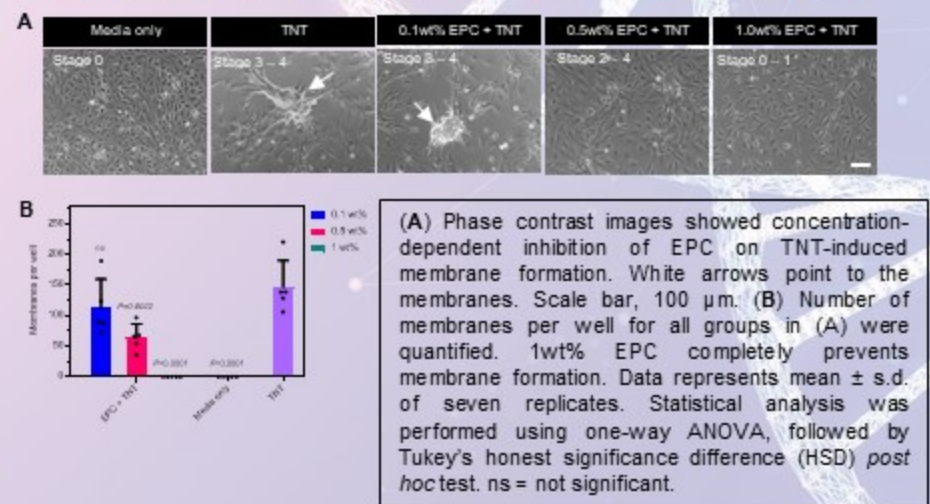


Fig. 3 EPC suppresses proliferation and migration

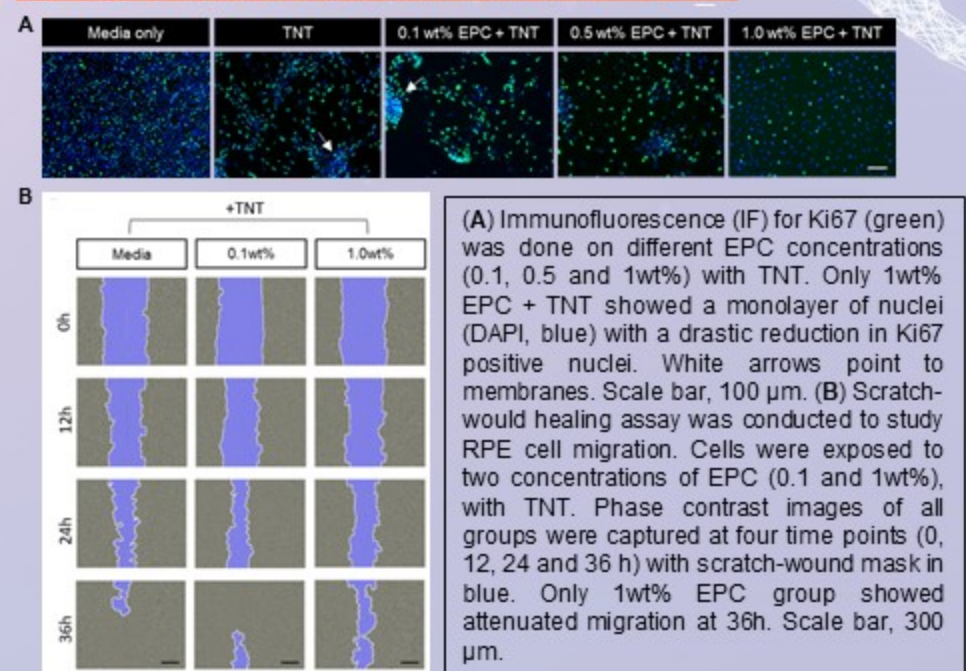
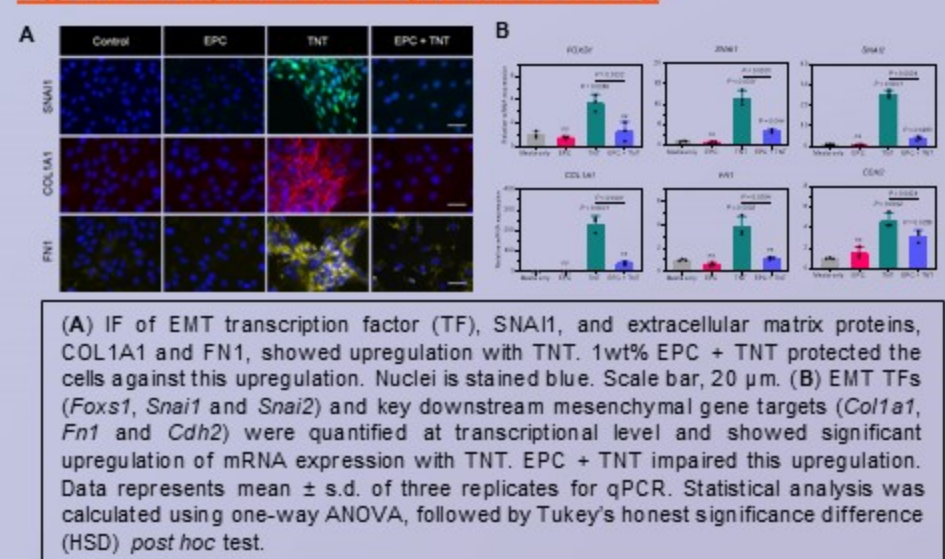


Fig. 4 EPC impairs EMT to prevent scarring



Conclusion

- Thermogelling polymer, EPC, prevented scarring and RD in rabbit model of PVR.
- Protective effect was recapitulated in an in vitro model of PVR, and the polymer further showed suppression on proliferation and migration of RPE cells.
- The anti-scarring effect of EPC is mediated by impairment of EMT network.

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