Remlarsen: A Clinical Stage miR-29b mimic

Intradermal injection of remlarsen inhibits collagen and ECM expression and inhibits fibroplasia at the site of iatrogenic skin wounds in normal healthy volunteers (Phase 1 clinical trial)

**Remlarsen Pharmacokinetics**

High levels of remlarsen uptake into cornea following corneal injury

Twice daily administration: Remlarsen uptake diminishes with re-establishment of corneal epithelium and tear film but remains above endogenous expression levels for 21 month

Remlarsen Pharmacodynamics

Remlarsen represses expression of TGF-β2 and multiple collagens Also statistically significant at Day 7 and Day 10

**Remlarsen Pharmacodynamics**

Remlarsen accelerates corneal wound healing

**Remlarsen**

Saline

Remlarsen

Remlarsen reduces EMT and FMT

**Dose/Schedule Optimization**

Remlarsen Optimal dose/schedule is 70 mg/mL remlarsen administered BID

**Conclusions**

- Remlarsen is taken up into injured cornea following topical drop administration
- Remlarsen pharmacokinetics is acceptable for treatment of corneal injuries/keratitis
- Remlarsen-treated corneas heal faster, with reduced scarring/hazing, reduced EMT
- miR-29 pharmacodynamic biomarkers are regulated in vivo in cornea by remlarsen
- Optimal remlarsen dose/schedule is 70 mg/mL BID
- Remlarsen may be an effective therapeutic to prevent fibrosis in the cornea in multiple diseases/conditions

**Disclosures**

- All authors are employees and stock/option holders of miRagen Therapeutics, Inc.