**INTRODUCTION**

Dry eye, a common ophthalmologic problem, often leads to an autoimmune reaction on the ocular surface, particularly in Sjögren’s Syndrome. One pathway of ocular surface inflammation consists of production and release of interleukin-17A (IL-17A) by Thelper 17 (Th17) cells, which contribute to the disruption of epithelial barrier function and consequently corneal surface irregularities with reduced optical quality. Correspondingly, desiccating stress has resulted in a significant upregulation of Th17 promoters on the ocular surface as well as an increase in IL-17A in the corneal epithelium and conjunctiva.

**METHODS**

Desiccating stress (DS) was induced by subcutaneous injection of scopolamine and exposure to a drafty, low humidity (30%) environment in TSP-1KO and wild-type (C57BL/6; B6) mice, aged 12 weeks, for 5 and 10 days. Non-stressed (NS) control mice were maintained in a separate room containing 50–75% relative humidity without exposure to forced air.

**RESULTS I**

1. TSP-1 is expressed in corneal and conjunctival stroma and TSP-1KO mice have reduced TGF-β levels vs. wildtype

   - Levels of CD4+ cells infiltrating the conjunctival epithelium (MIDDLE). Goblet cell density in the conjunctival epithelium (RIGHT).

2. TSP-1 is critical to ocular surface inflammation secondary to desiccating stress

   - Corneal permeability to Oregon green dextran dye (LEFT).

3. TSP-1KO mice do not upregulate inflammatory cytokines secondary to desiccating stress

   - Corneal mRNA transcripts of MMP3 (A), IL-17a (B), MMP9 (D) and IFN-γ (E).

**RESULTS II**

4. TSP-1 is essential for the generation of pathogenic CD4+ T-cells

   - Levels of CD4+ cells infiltrating the conjunctival epithelium (A). Goblet cell density of the conjunctival epithelium (B). Quantitative RT-PCR analysis of corneal mRNA transcripts of MMP9 (C), IL-17a (D), MMP3 (E), and IFN-γ (F).

5. Dendritic cell associated TSP-1 is critical to the ocular surface response secondary to desiccating stress

   - Levels of CD4+ cells infiltrating the conjunctival epithelium (A). Goblet cell density of the conjunctival epithelium (B).

**REFERENCES**

4. Dendritic cell TSP-1 is crucial to the ocular surface response secondary to desiccation.