

Replacement of the Corneal Endothelium in Fuchs' Dystrophy

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UK Regenerative
Medicine Platform

What is it?

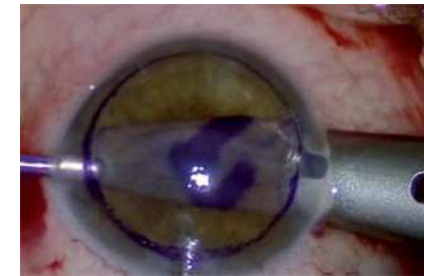
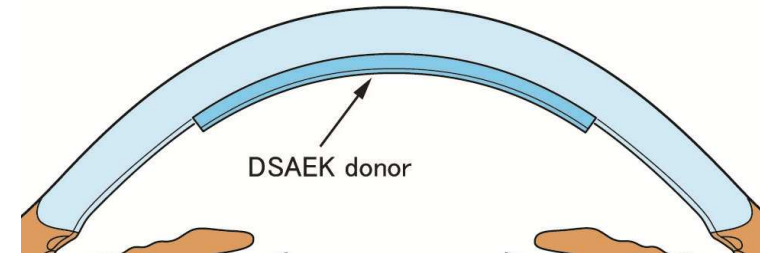
- Inner layer of the cornea is a single layered endothelium.
- The corneal endothelium pumps fluid out of the cornea preventing it from becoming swollen and maintains clarity.
- Diseases of the corneal endothelium (eg Fuchs' dystrophy) result loss of vision and are one of the commonest reasons for corneal transplantation.

How do you propose to tackle this?

- develop a thin, clear, easy to roll peptide gel suitable for the surgical technique
- functionalise the gel enabling cell adhesion.
- develop protocols for cultures of corneal endothelial cells on the gels.

Difficult Challenges

- Optimising the gel mechanical properties
- Optimising surface functionalisation for cell adhesion
- Optimising surgical handling



Endothelial keratoplasty

