



Fondazione  
Cottino

## **Pharmacological enhancement of corneal regeneration by a new proprietary drug**

### **DESCRIPTION:**

Methods for enhancing human corneal regeneration by means of a proprietary drug. Studies performed in human epithelial stem cells in vitro and in a human 3D corneal culture model, aimed to fill an existing gap in management and treatment of corneal diseases leading to corneal blindness.

### **ABSTRACT:**

Our recent study show how the genetic manipulation of a signal transduction pathway enhances numbers and functions of human epithelial stem cells suggesting that pharmacological manipulation of this pathway may implement the use of these human cells in regenerative medicine. The main objective of this study is to manipulate pharmacologically this signaling pathway by mean of a new proprietary molecule, in order to ameliorate epithelial stem cell expansion ex vivo and implement corneal regeneration in vivo while reducing inflammation. This proposal describes the development of new technologies aimed at filling an existing gap in treatments for corneal healing and regeneration. Target market: Patients with Epithelial Stem Cell Deficiency, Peripheral Ulcerative Keratitis, Neurotrophic Corneal Ulcers; Patients facing corneal rejection after transplantation; Biotechnological companies devoted to the development, manufacture, registration and distribution of advanced therapy products.