Supplement 1. Swelling experiment of the bovine corneal strips

To find an appropriate solution for keeping corneal hydration without swelling, we conducted a swelling experiment to analyze the corneal thickness and width varying with the immersion time in different solutions. During the experiment, twelve 2-mm-wide corneal strips were equally divided into two groups in two solutions (0.9% saline and Eusol-C) respectively at room temperature. The thickness and width in the central region of the cornea were measured using a micrometer at each required intervals (0.5th, 1th, 2th and 4th hour). Figure s1 shows the variation of the thickness when the specimens were kept in the two solutions.

![Graph showing variation of corneal thickness](image)

Figure s1. The variation of the corneal thickness in 0.9% saline and the Eusol C solutions.