Figure S1. Characterization of mouse BM-MSCs. (A): BM-MSCs of passage 3 were tested by flow cytometry showing positive for CD29 and Sca-1, and negative for CD11b, CD45, CD31 and CD34. (B): BM-MSCs of passage 3 were tested for their ability to differentiate into adipogenic, osteogenic, and chondrogenic lineages.
**Figure S2. BM-MSCs migrate to the leading edge of the wounded cornea.** MSCs were labeled with the fluorescent dye CM-DiI before transplantation. Corneas were collected 48 h after injury. Representative images of frozen corneal sections and HE showing MSCs were able to migrate to the limbus, repaired, and wound edge of the cornea (epi=epithelium; str= stroma).
Figure S3. TSG-6 suppressed leukocyte infiltration in diabetic cornea. Corneas were harvested 72 h after surgery, cut into pieces, digested and analyzed by flow cytometry. Cell number of CD45^+ immune cells infiltrated into cornea were calculated.
Figure S4. TSG-6 promotes alternative polarization and function of macrophage in vitro.

(A-D): Macrophages of peritoneal cavity from diabetic mice were isolated, and treated with LPS in the presence of MSCs conditioned medium (MSC-CM) or TSG-6 for 24 h. Expression levels of mRNA of TNF-α, iNOS, ARG-1, and IL-10 were determined by real-time RT-PCR. (E-F): Macrophage function was tested by phagocytosis assay. Results are expressed as mean±SD: *p<0.05.
Figure S5. CD44 is mainly expressed in the basal layer of corneal limbal epithelium.

Representative histological appearance of human cornea showing strong density of CD44 staining in the basal layer of cornea limbal epithelium.