Figure S1. Up-regulation of IL-1β, TNFα and VEGF-A in the alkali burned cornea and their down-regulation following dexamethasone treatment. (A) The gene expression of IL-1β and VEGF-A was significantly up-regulated in the alkali burned (ab) cornea on day 1, 4 and 8 in comparison to the control (day 0) and to the contralateral (cl) cornea; TNFα mRNA level was significantly increased at day 4 in comparison to the control (day 0) and to the contralateral (cl) cornea. The contralateral cornea also showed a significantly increase of IL-1β (on day 4 and 8) and TNFα (on day 4) in comparison to the control. (B) Topical dexamethasone (DEXA) treatment in the alkali burned cornea for 4 days significantly reduced the expression of IL-1β and TNFα versus the contralateral untreated cornea. TNFα expression was down-regulated also in the contralateral cornea. No difference was observed in the VEGF-A expression after treatment. Histograms represent mean values ± SEM; *P < 0.05, **P < 0.01, ***P < 0.001 (n = 6).
Figure S2. Up-regulation of IL-1β, VEGF-A, TAC1 and TAC1R in the trigeminal ganglion after corneal trephination. (A) Slit-Lamp examination of corneas immediately after trephination (day 0) and 1, 4 days later. The circular incision, well visible in the first two time points, remained quite detectable 4 days after corneal trephination (head arrows). (B) Confocal images of corneal whole mounts stained for the neuron marker β III tubulin (green), taken in the periphery (left panel) or in the center (right panel) of the cornea (central scheme), before
(control) and after trephination. The subbasal nerve fibres were not more detectable beyond the circular incision (red dashed line), 4 days after trephination, confirming a corneal denervation. (C-D) The gene expression of the inflammatory cytokines IL-1β and VEGF-A (C), and of the Substance P (TAC1) and its receptor TAC1R (D) was significantly up-regulated in the TG homolateral (hl) to the trephined corneas, on day 4, in comparison to the control (day 0) and to the contralateral (cl) TG. Histograms represent mean values ± SEM; * P < 0.05, ** P < 0.01, *** P < 0.001 (n = 6).