**Supplemental Figure 1.** H&E staining of colonic anastomoses of mice receiving Human Oral Mucosal Stem Cells. (A) Anastomosis with microabscesses; (B) Large abscess at anastomotic site; (C) Anastomosis with leukocyte infiltration; (D) Anastomosis with leukocyte infiltration at suture site. L-lumen, M-mucosa, MM-muscularis mucosa, ABS-abscess, LI-leukocyte infiltration, S-stitch.

**Supplemental Figure 2.** H&E staining of colonic anastomoses of mice receiving normal saline. (A) Perforated anastomosis with leukocyte infiltration and necrotic bowel wall. (B) Well-healed anastomosis. (C) Anastomosis wrapped with omentum. (D) Anastomosis with leukocyte infiltration and omentum. L-lumen, M-mucosa, MM-muscularis mucosa, OM-omentum, LI-leukocyte infiltration.