

Supplementary Materials:

Figure 1S

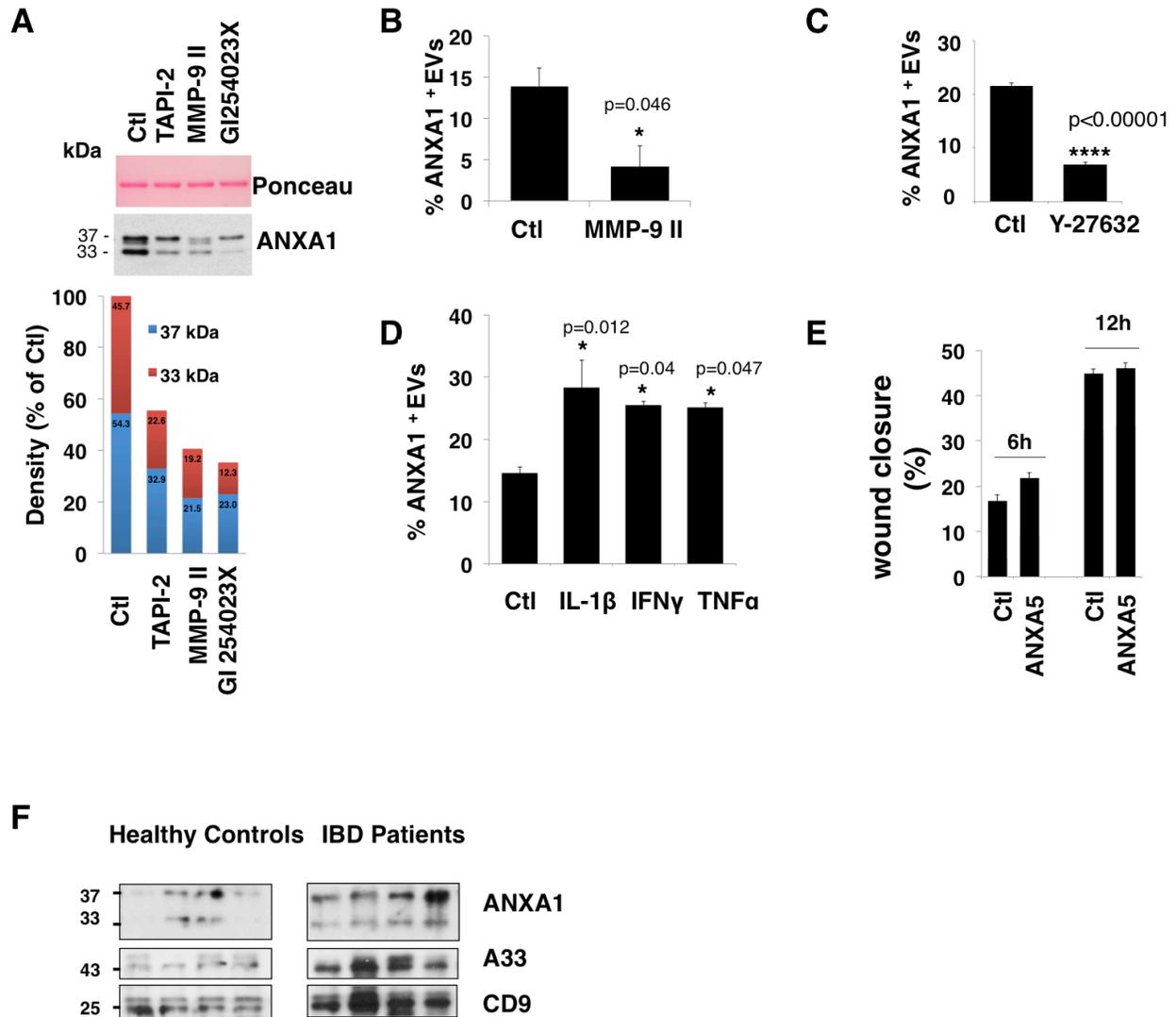


Figure 1S. Analysis of ANXA1 release from epithelial cells. (A) Immunoblots showing ANXA1 in supernatants of resealing wounds in the presence or absence of MMP inhibitor TAPI-2 (10 μ M), MMP-9 II inhibitor (10 μ M) and ADAM-10 inhibitor GI254023X (10 μ M). Representative immunoblots of n=3. (B-D) IECs EVs were acquired using the Imagestream^x MkII. EVs were stained with BODIPY-Texas Red and conjugated fluorescent antibodies against ANXA1 Ab, n=3. (E) Scratch wound healing assay on monolayers of IEC (at 6h, left panel and

12h right panel). ANXA5 was added to wounded IECs. The experiments were repeated three times and results of one representative experiment done with five parallel samples are shown. (F) Immunoblots showing ANXA1, A33 and CD9 in exosomes isolated from human serum by EpCAM magnetic beads. Representative immunoblots of n=3.

Figure 2S

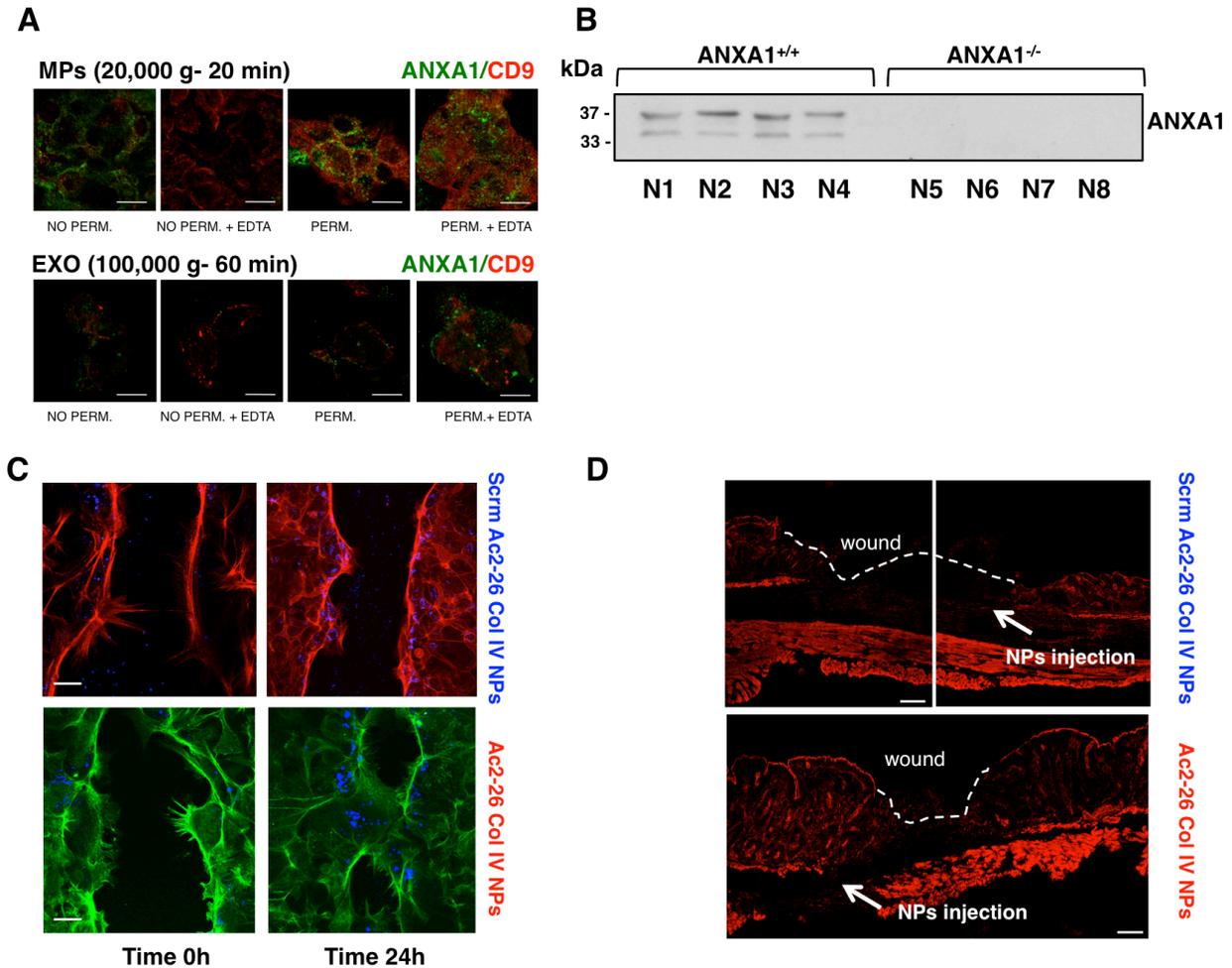


Figure 2S. ANXA1 containing EVs derived from cultured epithelial cells and NPs localization in in vivo wounds. (A) Confocal fluorescence microscopy of double immunolabeled EVs (ANXA1 and CD9 antibodies). No perm. (no permeabilization), no perm.+EDTA (permeabilization was not performed and EDTA was applied), perm. (permeabilization was performed), perm.+EDTA (permeabilization was performed and EDTA was applied). Scale bar 20 μ m. (B) Immunoblots showing ANXA1 protein in *ex vivo* resealing wounds in ANXA1^{+/+} and ANXA1^{-/-} mice. (C) Representative images of resealing wounds *in vitro* showing F-actin, AlexaFluor555 phalloidin (Red-panel), AlexaFluor488 Phalloidin (Green-panel) and NPs (Alexa 647, Blue) after Scrm Ac2-26 Col IV NPs or Ac2-26 Col IV NPs treatment. Scale bar 10 μ m. (D) *In vivo* colonic mucosal wounds injected with Scrm Ac2-26 Col IV NPs (1) and Ac2-26 Col IV NPs (2) harvested and labeled with AlexaFluor555 phalloidin Red-panel to

visualize the architectural organization of the epithelium. Scale bar 50 μm . The experiments of this figure were repeated three times and results of one representative experiment done with five parallel samples for A and C, with four mice for B and D are shown.

Table S1 Scoring of disease severity of human patients

Patient #	Preoperative Endoscopic Findings	Postoperative Histology
1	high grade ulcerative colitis	acute ulcerative colitis with moderate to severe inflammation,
2	acute inflammation*	
3	no endoscopy	active Colitis/ Crohns disease
4	low grade inflammation, stenosis	inflammatory stenosis, low grade inflammation
5	low grade inflammation, perianal fistulating disease	Crohn's disease, low grade inflammaion, chronic disease
6	severe Colitis	severe chronic colitis
7	mild acute colitis	clinical diagnosis
8	inflammatory stenosis	severe chronic colitis, Crohn's disease
9	high grade inflammation of whole colon	active ulcerative colitis, high grade inflammation

Table S1: Histological scoring of IBD patient intestinal inflammatory activity shown in Figure 4 (* diagnosis is based on clinical presentation).