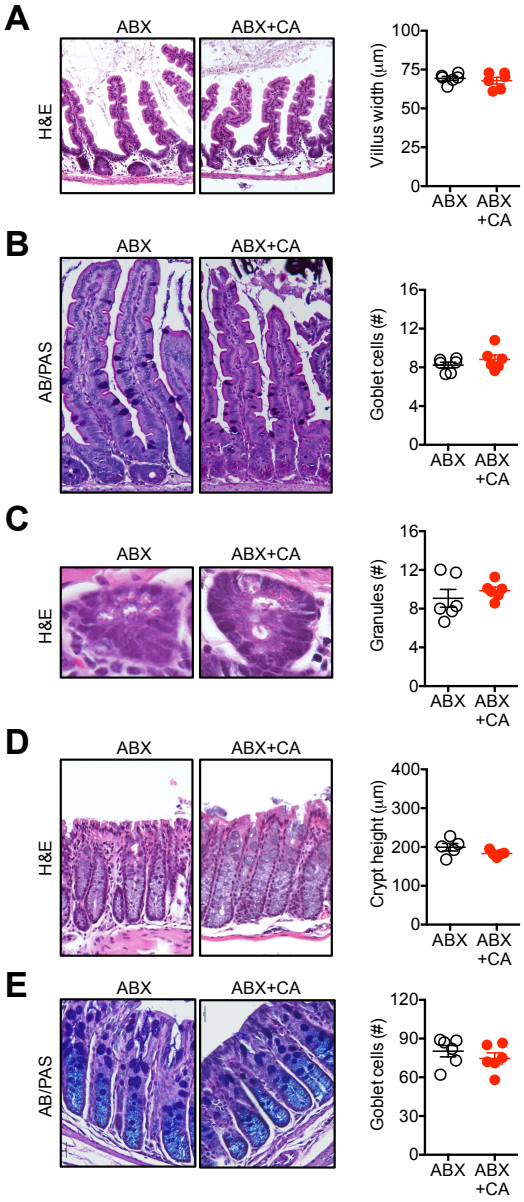

Figure S1 (related to Figure 1). *C. albicans* enteric colonization does not cause intestinal tissue injury
(A-C) Representative sections of small intestine stained with hematoxylin and eosin (H&E) or alcian blue/periodic acid-Schiff (AB/PAS), and composite data enumerating villus width (A), goblet cells per villus (B), and granules per paneth cell (C), for specific-pathogen free mice administered *C. albicans* and maintained on antibiotics containing ampicillin, gentamicin, metronidazole, neomycin, vancomycin for 14 days (ABX+CA), compared with antibiotic treated controls without *C. albicans* inoculation (ABX).
(D,E) Representative sections of colon stained with H&E or AB/PAS, and composite data enumerating crypt height (D), and number of goblet cells per 40X field (E) for mice described in panels (A-C).
Data are representative of at least two independent experiments. Bars, mean ± s.e.m. Original magnification 10X for (A,D), 20X for (B), or 40X for (C,E).

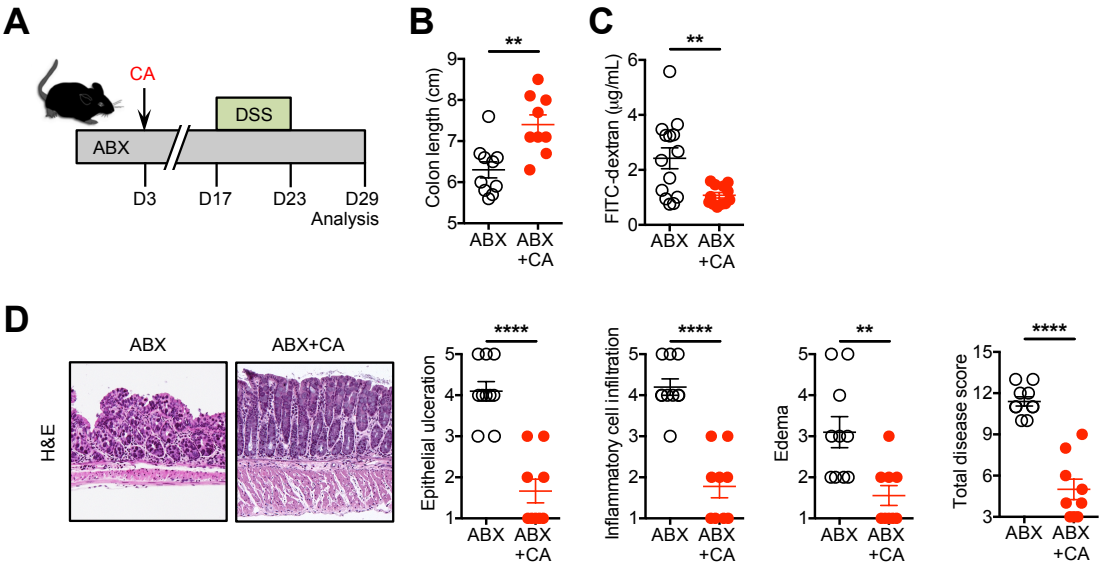

Figure S2 (related to Figure 1). *C. albicans* intestinal mono-colonization mitigates the severity of DSS induced colitis

(A) Analysis after 3% DSS initiation among specific-pathogen free mice after supplementing the drinking water with an antibiotic cocktail (ABX) containing ampicillin, gentamicin, metronidazole, neomycin, vancomycin, or administered *C. albicans* (CA) three days after ABX initiation (ABX+CA).

(B-D) Colon length (B), serum FITC-dextran concentration four hours after oral gavage (C), representative hematoxylin and eosin (H&E) stained colonic sections and composite histological scoring (see Methods) (D) after DSS administration (for six days) for mice described in panel (A).

**P < 0.01, ****P < 0.0001, by unpaired t-test with Welch's correction. Data are representative of at least three independent experiments. Bars, mean ± s.e.m. Original magnification 10X for (D).

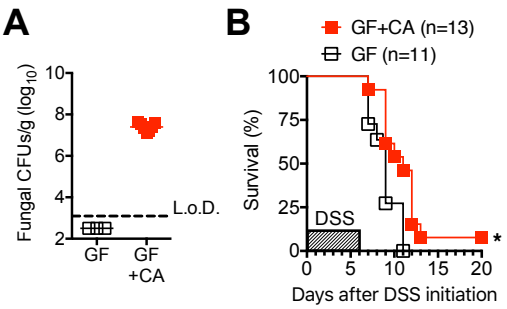

Figure S3 (related to Figure 1). Overt susceptibility to DSS induced mortality among germ-free mice is improved following *C. albicans* intestinal mono-colonization

(A) Recoverable fungal CFUs in the feces for germ-free mice 10 days after inoculation with *C. albicans* (GF+CA), compared to germ-free controls without CA administration (GF).

(B) Percent survival after DSS supplementation in the drinking water (for six days) for mice described in panel (A).

*$P < 0.05$, by Log-rank (Mantel-Cox) test. Bars, mean ± s.e.m. L.o.D., limit of detection.

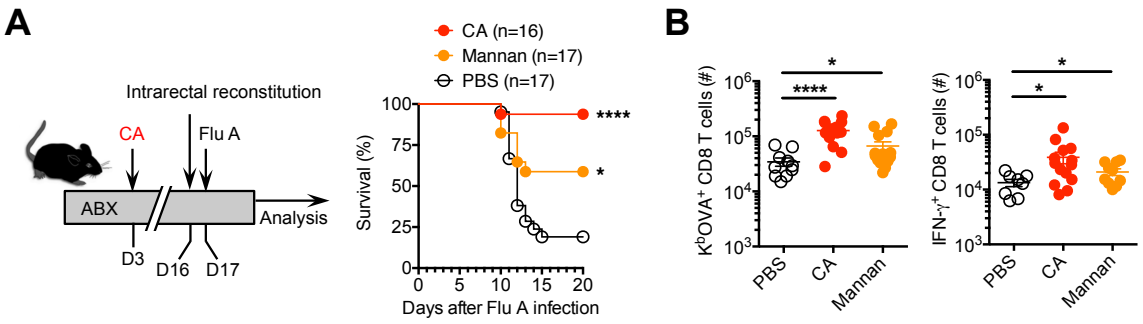

Figure S4 (related to Figure 4). Mannan stimulation recapitulates the extra-intestinal benefits of persistent *C. albicans* mono-colonization

(A) Percent survival after influenza A PR8-OVA (Flu A) intranasal infection (6 x 10^4 PFUs) among specific-pathogen free mice maintained on drinking water supplemented with an antibiotic cocktail (ABX) containing ampicillin, gentamicin, metronidazole, neomycin, vancomycin, and administered *C. albicans* (CA) three days after initiating antibiotic treatment, or intrarectally administered 10 mg mannan or saline (PBS) every other day starting one day prior to infection.

(B) Total number of Flu A-specific K^bOVA tetramer$^+$ CD8 T cells (left), and IFN-γ$^+$ CD8 T cells after *in vitro* $OVA_{257-264}$ peptide stimulation (right), from lungs nine days after Flu A infection for mice described in panel (A). **P* < 0.05, *****P* < 0.0001, by Log-rank (Mantel-Cox) test (A) or by Mann Whitney U test (B). Data are representative of at least three independent experiments. Bars, mean ± s.e.m.

Table S1 (related to STAR METHODS). Antibodies used and staining conditions for flow cytometry

Protein	Fluorophore	Clone	Vendor	Dilution
CD4	FITC	GK1.5	eBioscience	1:200
CD8α	APC	53-6.7	eBioscience	1:200
CD11b	PE-Cy5	M1/70	eBioscience	1:200
CD11c	PE-Cy5	N418	eBioscience	1:200
F4/80	PE-Cy5	BM8	eBioscience	1:200
B220	PE-Cy5	RA3-6B2	eBioscience	1:200
IFN-γ	eFluor 450	XMG1.2	eBioscience	1:100