Figure S1 Kabra et al.

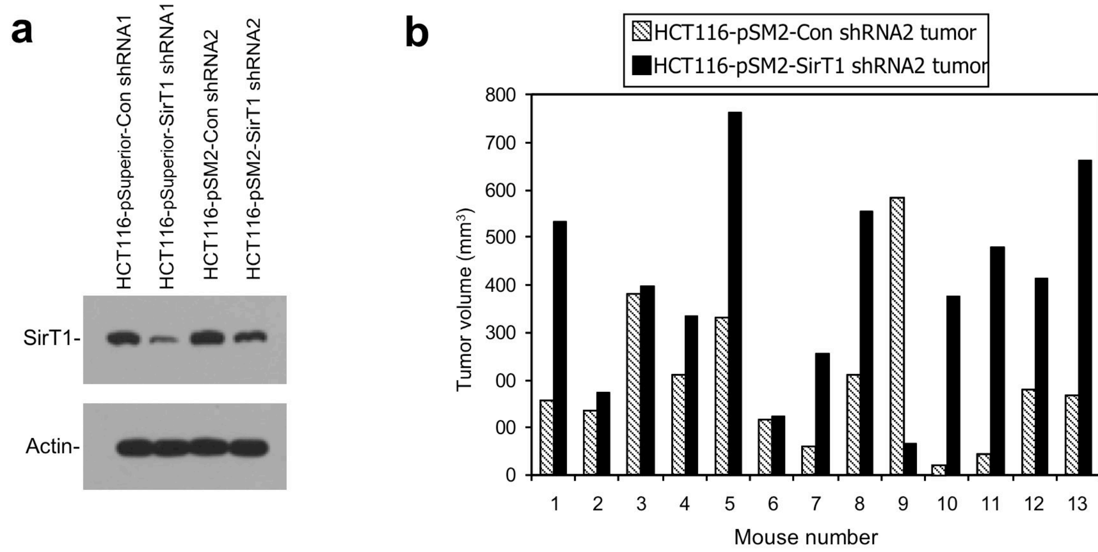


**Figure S1. Knockdown of SirT1 increases tumorigenicity.** (a) pSM2-SirT1-shRNA2 vector was used to generate a second HCT116 knockdown cell line. SirT1 knockdown efficiency was compared to cells with pSuperior-SirT1-shRNA1 (used for Figure 1) by western blot. (b) HCT116 SirT1 knockdown and control cells were injected subcutaneously in the dorsal flanks of athymic nude mice and tumor volumes were measured. Tumors formed by SirT1 knockdown cells were larger than those from control cells as calculated with paired Student's t-test $p<0.05$ (actual p-value=0.01).

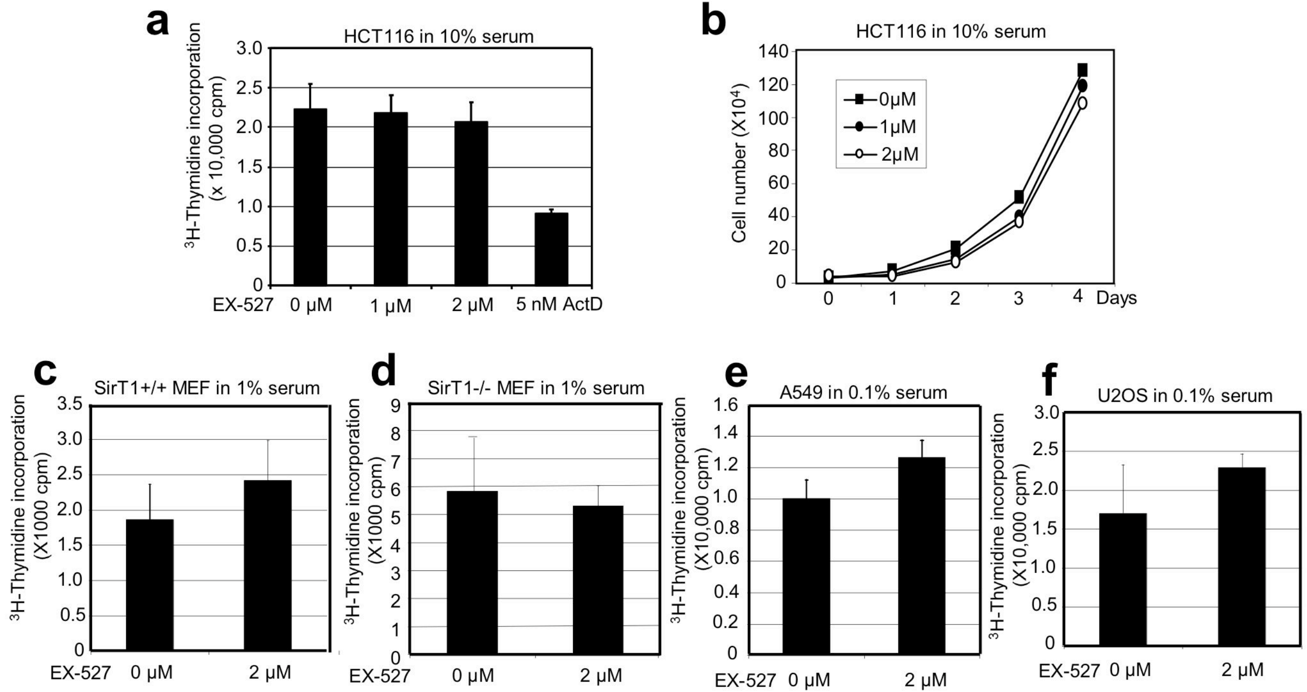


**Figure S2. Inhibition of SirT1 stimulates cell proliferation.** (a) HCT116 cells cultured in 10% serum were treated with SirT1-specific inhibitor EX-527 for 18 hr. DNA replication was measured by $^3$H-thymidine incorporation assay. Actinomycin D was used as an inhibitor control of cell proliferation. Error bars represent mean± s.d (n=6) and actual p-value=0.38 suggesting no significant difference between control and cells treated with 2 μM EX-527. (b) HCT116 cells cultured in 10% serum were maintained in different concentrations of EX-527 and cell number was determined at indicated time points. (c, d) Early passage (P4) MEFs from SirT1+/+ and SirT1-/- mouse embryos were tested for DNA synthesis rate by $^3$H-thymidine incorporation. Identical number of cells from each genotype were plated prior to 18 hr culture in 1% serum and 1 hr metabolic labeling. Error bars represent mean ± s.d (n=12). P=0.017 (c) indicates a significant increase ($p<0.05$) in proliferation of cells treated with EX-527 compared to control in the SirT1+/+ MEFs. P=0.09 (d) indicates no effect ($p>0.05$) of EX-527 on the proliferation of SirT1-/- MEFs as expected. (e, f) A549 and U2OS cells cultured in 0.1% serum were treated with EX-527 for 18 hr. DNA replication was measured by $^3$H-thymidine incorporation. Error bars represent mean ± s.d (n=6) in each case. p=0.005 (e) and p=0.02 (f) indicate significant increase in proliferation after EX-527 treatment.

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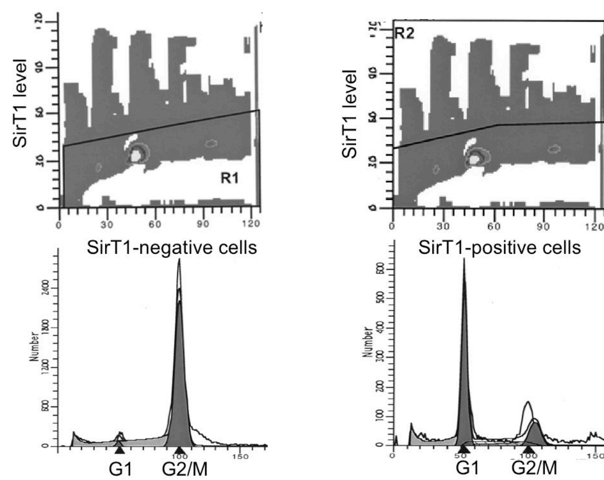


**Figure S3. Inhibition of cell proliferation by SirT1.** HCT116 cells were transfected with SirT1 for 24 hr, treated with nocodazole for 18 hr, and stained using SirT1 antibody. SirT1-positive cells and SirT1 negative cells were analyzed for cell cycle distribution.

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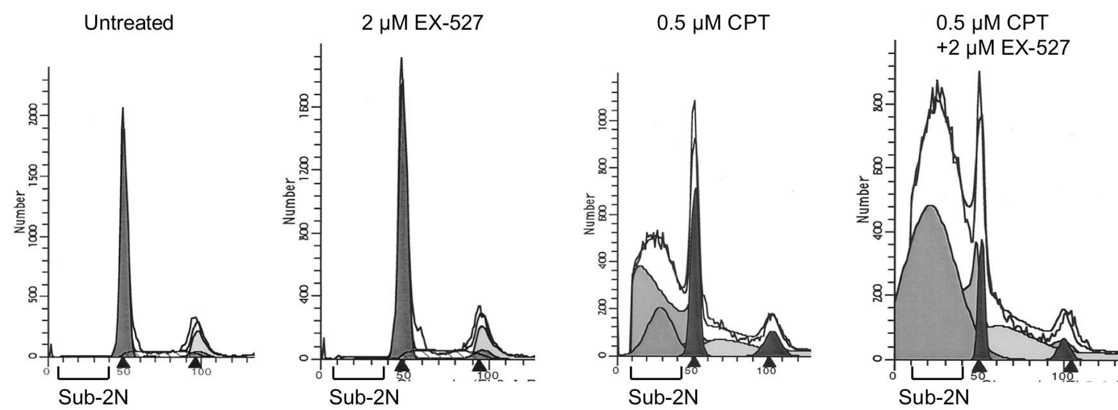


**Figure S4. Inhibition of SirT1 increases apoptotic response to DNA damage.** HCT116 cells were treated with EX-527 and camptothecin (CPT) for 18 hr and analyzed by FACS for the presence of apoptotic sub-2N population.

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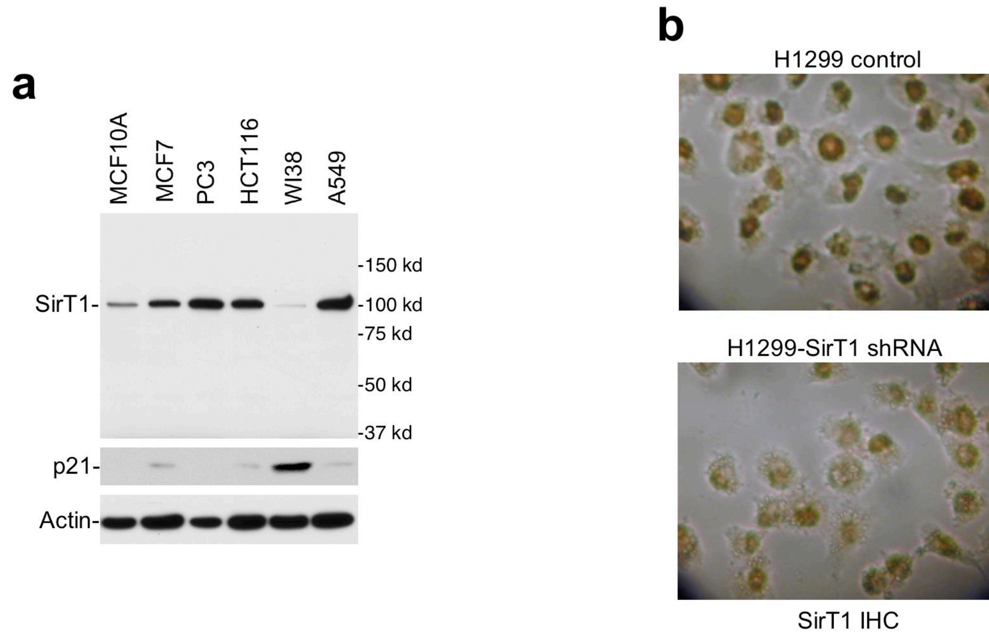


**Figure S5. Characterization of SirT1 antibody.** (a) Detection of a single protein by SirT1 monoclonal antibody 10E4 in western blot. Identical amounts of protein from cell lines were loaded for each lane. (b). Immunohistochemical staining (IHC) of H1299 cells with SirT1 knockdown using 10E4.

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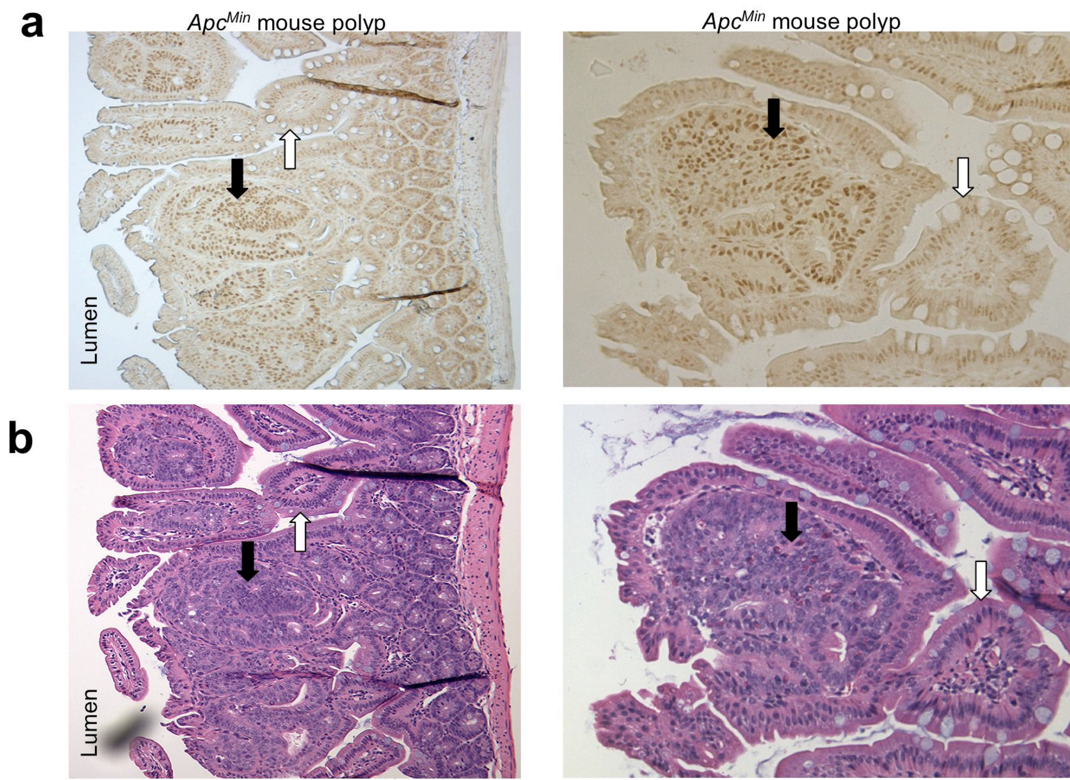


**Figure S6. SirT1 expression in the intestinal lesions of ApcMin mouse.** (a) Intestinal sections of 120 day old ApcMin mice were stained for SirT1 using a polyclonal antibody against the N-terminus of mouse Sir2. (b) Tissue areas corresponding to the SirT1 IHC staining were also stained with H&E for morphological comparison. High SirT1 expression was maintained in the adenomatous component (black arrows) as compared to cells of the adjacent normal mucosa (white arrows).