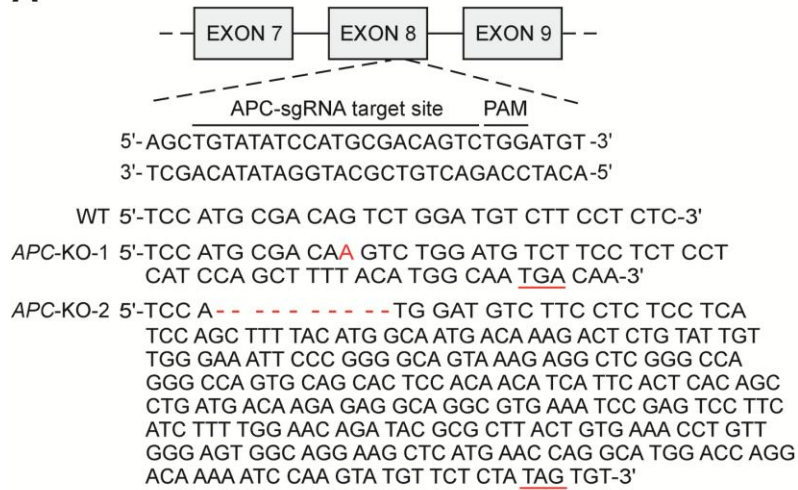
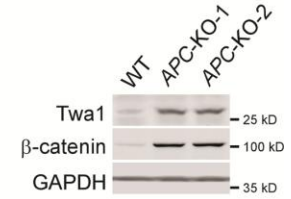
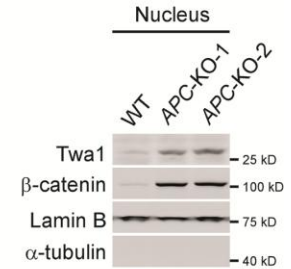
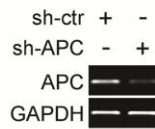
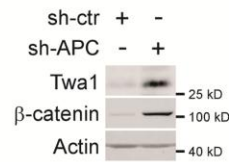
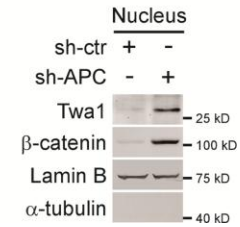


A**B****C****D****E****F**

Supplementary information, Figure S9 Either knockout or knockdown of *APC* gene increases Twa1 protein levels and its nuclear accumulation in HEK-293 cells. **(A)** Diagram of the sgRNA target site and the sequence of indels in the *APC* locus generated by the Cas9/sgRNA system. **(B, C)** Cell lysate or nuclear fraction extracted from wild-type and *APC* knockout cells (*APC*-KO-1 and -2) was processed for western blotting with the indicated antibodies. **(D-F)** HEK-293 cells were treated with lentivirus-based shRNAs targeting *APC* (sh-*APC*) or control shRNA (sh-ctr) and subjected to RT-PCR and Western analyses. RT-PCR showing the efficiency of *APC* knockdown in HEK-293 cells **(D)**. GAPDH was used as a loading control. Cell lysates or nuclear fractions extracted from HEK-293 cells were processed for western blotting with the indicated antibodies **(E, F)**. Lamin B and α -tubulin were used as loading controls for nuclear and cytoplasmic fractions, respectively.