SUPPLEMENTARY INFORMATION

LEGENDS

Table S1 List of Wnt inhibitors (A-O) from the InhibitorSelect™ Inhibitor Library (Calbiochem, Merck) that were used in the screen.

Figure. S1 shRNA knockdown of β-catenin using lentivirus, as described under "Experimental Procedures". Equal amounts of cell protein lysate were separated on 10% SDS-PAGE, and the membranes were probed with the anti- β-catenin antibody. Western blots showing reduced expression of β-catenin in stably silenced cell lines compared with the scramble shRNA control.

Figure. S2 β-catenin overexpression (OE) stable HCT116 and MCF10A cells were obtained as described under "Experimental Procedures". These stable cell lines were harvested and real-time PCR was used to measure *β-catenin* mRNA expression level. Real-time PCR result showed that *β-catenin* gene expression was significantly enhanced.

Figure. S3 β-cantenin/TCF3 cannot bind to *hTERT* TBE. Biotin-labeled wild-type TBE probe (lane 1-5) and mutant TBE probe (lane 6) were incubated for 30min with either 10 μg of normal 293T cell nuclear extracts or 293T cell nuclear extracts with β-catenin/TCF3 overexpression. Competition experiments were performed by preincubating with 500 fold molar excess of the unlabeled TBE probes (competitor, lane 4), or 500 fold molar excess of the unlabeled mutant TBE (mutant competitor, lane 5).

Figure. S4 *hTER* and *DKC1* expression decreases in β-catenin knockdown stable cells. Real-time PCR analysis of *hTER* and *DKC1* expression in β-catenin knockdown stable 293T, HCT116, MCF7 and MCF10A cells. *hTER* and *DKC1* mRNA level were normalized against a house keeping gene; GAPDH. Fold change is calculated relative to control.

Figure. S5 β-catenin was knockdown by specific shRNA in human embryonic stem cell, hES3 cells. After infection, hES3 cells were selected under 0.5 ug/ml puromycin for 1 week. Then cells were harvested for Western blot and real-time PCR analysis. Western blot showed a reduced in expression of β-catenin in hES3 cells compared to the scramble shRNA control (left panel). Real-time PCR result showed the mRNA level of *β-catenin* gene was significantly reduced (right panel).

Figure. S6 Real-time PCR analysis shows reduced *hTERT*, *hTER*, and *DKC1* expression in β-catenin knockdown hES3 cells. *hTERT*, *hTER*, and *DKC1* mRNA level were normalized against a house keeping gene; *GAPDH*. Fold change is calculated relative to control (left panel). Real-time PCR based TRAP was carried out to measure TA in β-catenin knockdown hES3 cells and control cells. TA was moderately reduced in β-catenin knockdown hES3 cells (right panel).

Figure. S7 hTERT overexpression (OE) stable 293T, HCT116, MCF7, and MCF10A cells line were obtained as described under "Experimental procedures." These stable cells were harvested and subjected for real-time PCR or qTRAP to measure *hTERT* mRNA expression level (left) or TA (right). Empty retroviral expression vector was used as a control.

Figure. S8 Real-time PCR analysis showed that *c-Myc* and *NOS2* expression kept stable in hTERT overexpression stable 293T, HCT116, MCF7, and MCF10A cell lines. *c-Myc* and *NOS2* mRNA level were normalized against a house keeping gene *GAPDH*.

Materials and Methods

Western Blotting

Cells were harvested for protein at different time points. Briefly, cells were resuspended in 50 mmol/L Tris-HCl (pH 7.4), 250 mmol/L NaCl, 5 mmol/L EDTA, and 0.1% NP40 containing protease and phosphatase inhibitors. Lysates were cleared by centrifugation at 14,000 rpm for 10 min, and samples were run on SDS-PAGE gels. Western blotting was performed with the following antibodies: rabbit anti-β-catenin (Cell Signaling). Horseradish peroxidase (HRP)-conjugated mouse anti-β-actin (Abcam) was used as loading controls. Immunostaining was detected using ECL Plus Detection Reagent (GE Healthcare).