**Supplementary Materials and Methods**

**Antibodies**

The following primary antibodies were used for Western blotting analysis: Cell Signaling Technology, β-Actin #4967, AKT (C67E7) #4691, phospho-AKT (Ser473) #4060, BMI-1 #2830, β-Catenin (6B3) #9582, E-Cadherin (24E10) #3195, GAPDH (14C10) #2118, Nanog #3580, Oct-4 #2750, Vimentin (D21H3) #5741, H3K36me3 (D5A7) #4909, EZH2 (AC22) #3147, PARP #9542, PARP cleaved (Asp214) (D64E10) #5625, Caspase 7 cleaved (Asp 198) (D6H1) #8438, Caspase 3 cleaved (Asp 175) (5A1E) #9664, H3 (D2B12) #4620, c-Met (D1C2) #8198; Biorbyt: H3K4me3 (orb48115); Active Motive: H3K27me3 (#39158); Millipore: γH2A.X (05-656); Proteintech: SETD2 (55377-1-AP); Bethyl: ASH1 (A301-749A-T).

**Primers for ChIP assay**

Primer sets used for PCR of ALDH1A1 promoter regions were as follows: ALDH1A1(i), forward, 5'-TCC ACA ATC AGA GCA TCC AGA GTA-3'; reverse, 5'-CAG GAA ATC AGT CCA TCT CCC AG-3'; ALDH1A1 [21](#_ENREF_21), forward, 5'- CTG GGA GAT GGA CTG ATT TCC TG-3'; reverse, 5'- CTC CTG GAA CAC AGG TGA CTG GCT-3'[21](#_ENREF_21).

**siRNA-mediated gene silencing**

The siRNA target sequences were obtained from the Life Technologies website and corresponding RNA duplexes were synthesized by Eurofins. The sequences were as follows:

hCTNNB1 siRNA#1 antisense 5'-AACAUAGCAGCUCGUACCCdTdC-3', sense 5'-GGGUACGAGCUGCUAUGUUdTdT-3'; hCTNNB1 siRNA#2 antisense 5'-AGCCUUAUUAACCACCACCdTdG-3', sense 5'-GGUGGUGGUUAAUAAGGCUdTdT-3'

Non-specific control antisense 5'-AGGUAGUGUAAUCGCCUUGdTdT-3', sense 5'-CAAGGCGAUUACACUACCUdTdT-3'. Transfection of LNCaP, DU145 and PC3 cells with siRNA was performed using Lipofectamine RNAiMAX (**Life Technologies GmbH)** according to the manufacturer’s instruction.

**Supplementary references**

1. Veeman MT, Slusarski DC, Kaykas A, Louie SH, Moon RT. **Zebrafish prickle, a modulator of noncanonical Wnt/Fz signaling, regulates gastrulation movements**.Curr Biol. 2003 Apr 15. 13(8):680-5. 10.1016/S0960-9822(03)00240-9