**Supplementary Materials and Methods**

**RNA extraction and quantitative-PCR analysis**

Total RNA was extracted from the human prostate cancer cell lines or prostate cancer tissues using the TRIzol reagent (Invitrogen). cDNA synthesis was performed using PrimeScript RT Reagent Kit (Takara). Primers used in the quantitative-PCR were listed in the Supplementary Table 2. Quantitative-PCR experiments were conducted using SYBR Green PCR System (Takara). mRNA expression level of the examined genes were normalized to GAPDH and calculated according to the 2∆∆Ct method. All quantitative-PCR reactions were conducted in triplicate.

**In vitro scratch assay**

Confluent PC3 or LNCaP monolayers grown in 24-well plates pre-coated with 5 μg/mL collagen. Cells were then cultured with RIPA 1640 medium with 1% FBS to inhibit cell proliferation. The cells were wounded with 10 μL pipette tips and washed with phosphate-buffered saline (PBS) to remove the debris. Images of the cells were captured after 24 hours of incubation at 37°C in a 95%: 5% (v/v) mixture of air and CO2. The migrated cells were counted, and the migrating rate was calculated manually. Three independent experiments were performed.

**Immunoprecipitation (IP) and immunoblotting (IB)**

For IP experiments, cells were washed with ice-cold phosphate-buffer saline and lysed in a lysis buffer (50 mmol/L Tris-HCl, pH 8.0; 150mmol/L NaCl; 1% NP-40) supplemented with protease and phosphatase inhibitors (Roche, Penzberg, Germany). Cell lysates were incubated with 2 μg primary antibodies overnight at 4℃. Rabbit or mouse immunoglobulin G (Sigma-Alrich, USA) was used as isotype controls in the experiments. TrueBlot anti-mouse/rabbit IgG IP beads (eBioscience, San Diego, CA) were then added and incubated for another 4 h at 4℃. The immunoprecipitates were washed 4 times with the lysis buffer and then boiled for 5 min at 99℃ in protein loading buffer. Immunoprecipitated proteins were detected by following immunoblots. The immunoprecipitated proteins were separated on 10% SDS-PAGE gels and then transferred to polyvinylidene fluoride membranes (Whatman, GE healthcare). The membranes were blocked by 5% (w/v) non-fat milk in phosphate buffer saline and incubated with diluted primary antibodies at 4℃ overnight, followed by wash then incubation with secondary antibodies for 1 h at room temperature. After wash with PBST (PBS containing 0.1% Tween20) thoroughly, the membranes were developed by enhanced chemiluminescence substrates (Thermo Scientific). The antibodies used in the study are listed in Supplementary Table 1.

**Immunohistochemical (IHC) and immunofluorescent (IF) staining**

For IHC staining experiments, prostate cancer tissues were fixed in 10% formalin at room temperature overnight and then embedded in paraffin. Paraffin-embedded tissues were cut into 5 μm sections. Sections were deparaffinized, rehydrated, and subjected to a heat-induced epitope retrieval step in 0.01 M sodium citrate (pH 6.0). Endogenous peroxidase activity was eliminated by 0.3% (v/v) hydrogen peroxide in distilled water. The sections were then incubated with 10% goat serum in PBS for 1 h, incubated with indicated primary antibodies for 1 h, washed 3 times by PBS and incubated with horseradish peroxidase conjugated secondary antibodies. The staining was developed with the GTVisionⅢ Immunohistochemistry Detection Kit (Gene Tech Inc., Shanghai, China) according to the manufacturer’s instructions. Sections were counterstained with Hematoxylin.

For IF staining, cells were seeded on the glass coverslips in 24-well culture dishes. When cells propagated to 60% confluence or gave rise to typical clones (diameter＜500 μm ), cells were fixed by 4%paraformaldehydefor 15 min at room temperature, washed 3 times with PBS, and permeabilized with PBST for 15 min at room temperature. Primary antibodies were then added and incubated overnight at 4℃. After wash with PBS, secondary antibodies were applied to the samples and incubated at room temperature for 1 h. Slides were washed with PBS for 3 times and then mounted with Vectashield mounting medium containing DAPI (Vector laboratories, Inc. H-1200). Immunostaining images were captured using a Leica DM2500 microscope and processed by the Image-J software.

**Telomerase activity assay**

A quantitative real time PCR-based Telomeric Repeat Amplification assay (qTRAP assay) was used in this study to detect telomerase activity. 106 Cells were lysed in 200 μL 0.5% (v/v) CHAPS buffer (pH 7.5) containing 10mM Tris-HCl, 1 mM MgCl2, 1 mM EGTA, 0.1 mM benzamidine, 5 mM β-mercaptoethanol, and 10% glycerol for 30 min on ice. The lysates were then centrifuged at 12,000g for 30 min at 4℃.Supernatants were collected for protein concentration determination using the BCA Protein Assay kit (Thermo scientific). The telomerase reaction was performed in 10μL 2 ×TRAP buffer containing 20 mM Tris-HCl (pH 8.3), 1.5 mM MgCl2, 63 mM KCl, 0.05% Tween 20, 1 mM EGTA, and 0.1 mg/mL BSA. Besides, 50 μM each of the four dNTPs, 80 ng/μL TS primer (5’-AAT CCG TCG AGC AGA GTT-3’) and 2μg protein containing cell lysates were added into the reaction mixture. The telomerase reaction was carried out at 30℃ for 30 min and was stopped by incubation at 94℃ for 10 min. Subsequently, 10 μL of the following 2×PCR mixture including 2×TRAP buffer, 1 mg/μL BSA, 15% glycerol, 1: 10,000 SYBR-green, 0.08 unit/μLTaq polymerase and 40 ng/μL ACX primer (5’-GCG CGG CTT ACC CTT ACC CTT ACC CTA ACC-3’) were added to the qTRAP reaction mixture. The following quantitative PCR was performed in triplicates on the 7900HT Fast Real Time PCR System (Applied Biosystem). The CHAPS lysis buffer were used as negative controls and all the samples were normalized to the standard curve generated by 293T cells.