**Suppl 1.** Validation of knock down efficiency of PIK3R1 gene on BT-474 breast cancer cell line. Lentiviral infection was carried out to allow short hairpin RNA (shRNA) silencing of the PIK3R1 gene (Δ *PIK3R1-1*&Δ *PIK3R1-2*) in BT-474 cell line. The infection efficiency was validated by real-time PCR (A) and Western blot analysis (B). The protein expressions of AKT and mTOR were quantified as a relative ratio (t-protein / p-protein). The clone (Δ *PIK3R1-2*) was used in the subsequent experiments.

