**Suppl. Fig. 1**. Expression of AKT1, AKT2, and AKT3 in wildt ype and *Pten*-/- mouse thyroids.

**Suppl. Fig. 2**. Effect of the *Pdk1* L155E allele on the incidence of hyperplasia, solid nodules, and carcinomas in male *Pten*thyr-/- mice at 60 weeks of age.

**Suppl. Fig. 3**. *Sgk3* depletion is less effective than *Sgk1* depletion in impairing PI3K-dependent thyroid cancer cell proliferation.

**Suppl. Fig. 4**. Representative example of the limited effect of *SGK1* depletion on the proliferation of a human *BRAF*V600E-driven thyroid cancer cell line, T235.

**Suppl. Fig. 5**. Combined pharmacological targeting of PI3K and SGKs at a constant inhibitors ratio does not result in synergistic activity.