



**Figure S1.** Immunohistochemical detection of mTOR pathway activation in radiation-associated renal tumors of *Tsc2*<sup>+/-</sup> F1 rats. Shown are representative immunostained images of phospho-Akt1 (Ser473) (A), phospho-mTOR (Ser2448) (B), phospho-4E-BP1 (Thr37/46) (C), and phospho-S6 ribosomal protein kinase (Ser235/236) (D) in renal adenocarcinomas of gamma-irradiated F1 rats. AC, adenocarcinoma; N, normal tissue. Scale bars, 100 μm.