

**Supplementary information, Figure S2.** DR3 is required for anti-mitotics-induced apoptosis. HeLa cells stably expressing tetracycline (tet) – inducible DR3 shRNA were generated, designated as HeLa-DR3shRNA. DR3-Flag with scrambled mutations in the shRNA targeting region was introduced into DR3shRNA cells to generate DR3shRNA/Scr cells. HeLa-DR3shRNA cells (A) or HeLa-DR3shRNA/Scr cells (B) were treated with or without tet for 48 h followed by the exposure to increasing concentrations of diazonamide. Cell viability was measured after 48 h of treatment. (C) DR3 mRNA levels in DR3 shRNA cells with or without tetracyclin induction. (D) In the HeLa cells stably expressing tetracycline (tet) inducible-DR3 shRNA, DR3-Flag protein was sustained in DR3shRNA/Scr cells even when DR3shRNA was expressed. Cell viability was measured after stable DR3 shRNA or DR3shRNA/Scr cells were treated with 100nM taxol (E) or 10nM vinblastine (F) for 48 h in the absence and presence of tetracycline. Values are presented as means  $\pm$  SD (\*\*p<0.01, \*\*\*p<0.001, NS: not significant). (G) DR3 shRNA cells were treated with 500nM diazonamide, vinblastine or taxol for 4 h in the absence or presence of tetracycline. Intracellular concentrations of the drugs were determined by LC-MS analysis. (H-I) DR3 shRNA or DR3shRNA/Scr cells were grown in the absence or presence of tetracyclin in the 24-well plates. Cell numbers were counted at the indicated time.

