Supplementary Materials for

**N-Acetyl-L-cysteine enhances the effect of selenium nanoparticles on cancer cytotoxicity by increasing the production of selenium-induced reactive oxygen species**
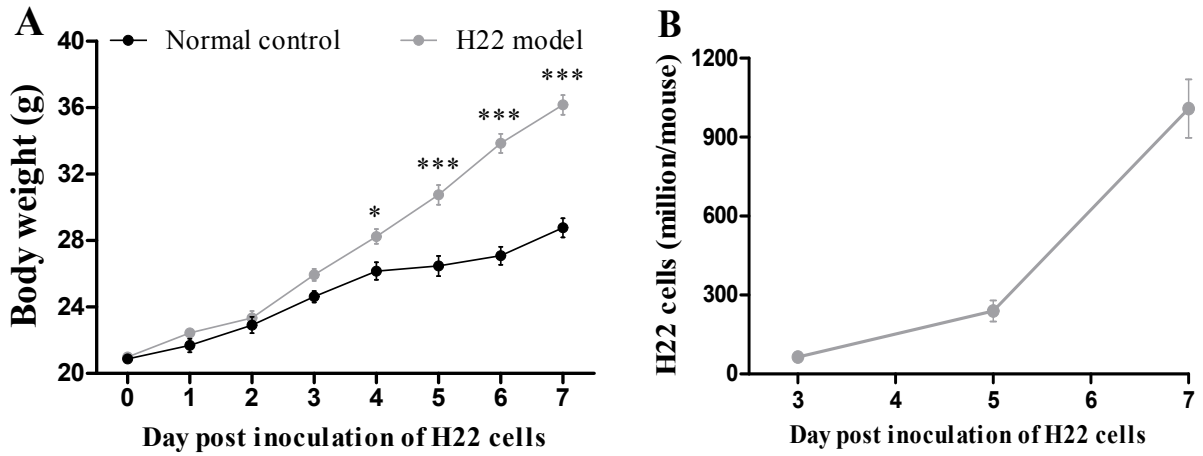
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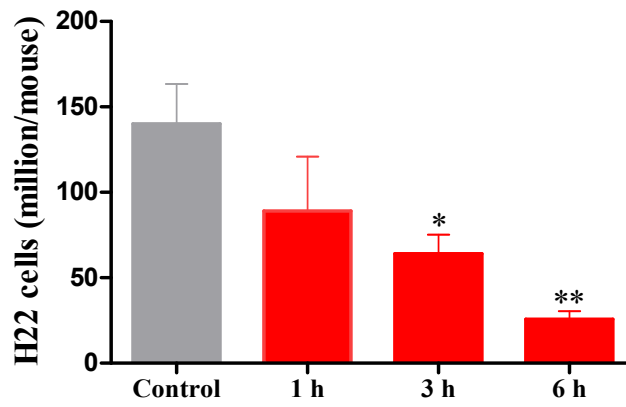
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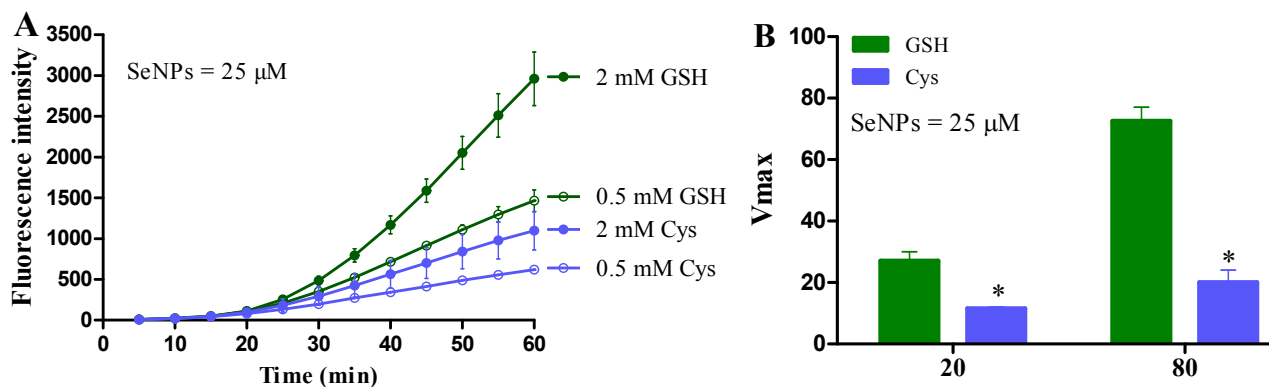
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**Figure S1. Body weight and cancer cell number in peritoneal cavity of mice. Experiment.** To inspect the development of body weight and cancer cells in the mice peritoneal cavity post the inoculation, healthy mice were i.p. injected with saline as a control, or two millions of viable H22 cells as a moderate tumor model. **(A)** Body weight. **(B)** Viable cells. * $P < 0.05$, *** $P < 0.001$, compared to control.

**Figure S2. Time effect of SeNP-triggered apoptosis of H22 cells in peritoneal cavity of mice. Experiment.** Highly malignant H22 model mice (n = 4/group) were i.p. injected with saline as control or SeNPs (4 mg Se/kg); mice were sacrificed at the indicated time post-injection, and cells were collected. Graph showing viable cells. Data are presented as the mean ± SEM. * P < 0.05, ** P < 0.01, compared to control.

**Figure S3. Comparison between GSH and Cys in driving SeNPs to produce ROS at a molar ratio of 20 and 80 (GSH/Se or Cys/Se). (A)** ROS production. **(B)** ROS formation kinetics. Experiments were carried out in 50 mM PBS (1 mM EDTANa2, pH 7.5) at 37°C in the presence or absence of 50 μM DCFH-DA. Data are presented as the mean of two replicates; the error bar represents the range. In most data points, the range was smaller than the symbol. The vehicle control has been subtracted from the treatments. * P < 0.05, compared to GSH/SeNPs group.