Mice were pre-fed 0% FLC for 72 hours prior to single fraction thoracic X-ray radiation therapy (13.5 Gy). Following XRT exposure, mouse cohorts (n=15) were fed 10% FLC or 20% FLC diets initiated 24, 48, or 72 hours post-XRT. Control-fed mouse cohorts remained on 0% FLC diet throughout the course of the study. Mice were sacrificed at 16 weeks post-XRT and bronchoalveolar lavage (BAL) fluid was collected. **Panel A**: Total WBC counts in BAL fluid. Data is represented as mean ± SEM. *p< 0.01 for irradiated 0% FLC vs. Irradiated 10% FLC. **Panel B**: Total PMN cells in bronchoalveolar lavage (BAL). Data is represented as mean ± SEM. *p< 0.05 for irradiated 0% FLC vs. irradiated 10% and 20% FLC (+48 hours).