Reviewer's report

Title: Differential modulation of nicotine-induced gemcitabine resistance by GABA receptor agonists in pancreatic cancer xenografts and in vitro

Version: 2 Date: 23 June 2014

Reviewer: Srikumar Chellappan

Reviewer's report:

The manuscript by Banerjee et al., presents data that suggests GABA might overcome nicotine-mediated resistance to gemcitabine-induced death of pancreatic cancer cells. At the same time, a chemical agonist, baclofen, does not. They suggest that GABA might be useful to negate the chemoprotective effects of nicotine. These are follow up experiments of earlier studies conducted by the Schuller lab, which showed a role for beta adrenergic receptors in responding to nicotine.

Major essential revisions

The study has a certain amount of merit, but there are many issues that need to be addressed. It is not clear why the investigators stopped the animal experiment at 4 weeks; the differences appear to be minimal here. Data from additional time points should be presented, if available. The second major concern I have is that there are no statistical analyses of any data points in any of the graphs. Students t test or ANOVA should be conducted and the p values presented for the graphs. Third, the discussion section should be toned down a bit, taking into account that there is no clinical evidence that NRT causes resistance to chemotherapy.

Once these issues are fixed, this manuscript would be significantly improved and be appropriate for BMC Cancer.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no competing interests