Reviewer's report

**Title:** Membrane Sealant Poloxamer P188 Protects Against Isoproterenol Induced Cardiomyopathy in Dystrophin Deficient Mice

**Version:** 2  **Date:** 30 March 2011

**Reviewer:** DeWayne Townsend

**Reviewer's report:**

The authors have responded nicely to my initial comments and have clarified the presentation of their data significantly. I still have reservations regarding the use of parametric and non-parametric statistics, I cannot think of a good biological reason for a distribution to change over the course of two weeks. However, I will defer to the statistical expertise of independent statistician and the discretion of the journal.

However, with the clarification of the data presentation it has become clear how little of the data actually supports the conclusion that “that chronic intraperitoneal administration of P188 to mdx mice stressed with subcutaneous isoproterenol can significantly improve cardiac systolic function.” Most of the data suggests that isoproterenol significantly improves cardiac systolic function, but this is not very surprising. To my reading the only data supporting this conclusion is Aortic velocity (at 2 weeks, but not four weeks), heart rate (at 2 weeks but not 4 weeks), and shortening fraction (at 4 weeks but not 2 weeks). While all of this data is consistent with improvements of systolic function of the heart, other explanations remain equally plausible (i.e. reductions in afterload would cause similar findings). The authors should temper their conclusion to reflect the fact that the evidence of positive effects of P188 in this study are not overwhelming.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I am listed on a patent (7,846,426) that relates the use of Poloxamer 188 in the treatment of heart disease. However, I have no financial stake in the publication of the current paper.