Reviewer's report

Title: Hepatocyte growth factor (HGF) in fecal samples: rapid detection by surface plasmon resonance

Version: 2 Date: 18 February 2005

Reviewer: Michael Pearce

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The results generated by the experiments are surface plasmon resonance signals and optical density readings from ELISA. Both types of data are continuous but may well not be normally distributed. The authors appear to have taken a conservative approach and used non-parametric statistical techniques which is sensible.

The numbers of patients and controls in the study is small. This can result in inadequate statistical power, but the authors seem to have achieved a number of statistically significant results which suggests that statistical power is not a major issue. However, with small numbers, results are inherently unstable and it would be useful if the authors could give some indication of just how variable results for PSR and ELISA were by tabulating results. Because of the small sample size, selection biases may also be important determinants of results in this study.

In RESULTS, para 1, the authors state that patients with gastroenteritis had significantly higher signal responses compared with patients with colon cancer or normal controls. They should say what statistical technique they used to come to this conclusion.

The authors demonstrate a correlation between SPR and ELISA results for patients with gastroenteritis. However, as a rule of thumb, one should have 10 or more points for regression lines/curves. Figure 3 does not meet this criterion.

The use of the Friedman test and Wilcoxon test to assess the effects of altering the immobilization levels is appropriate.

In Figure 1, the confidence limit for SPR readings for samples from patients with colonic cancer is <0.

The authors concede in the DISCUSSION that the number of observations is small but then state they have results of significance from another study with 70 patients. Why not combine the results for a much more robust paper? If there is some urgency about reporting results from the smaller study, I think it would be appropriate for the authors to consider a letter or small communication format, and submit a more formal
paper later with results from both studies.