Reviewer's report

Title: Comparative analysis of inflamed and non-inflamed colon biopsies reveals strong proteomic inflammation profile in patients with ulcerative colitis

Version: 1 Date: 23 March 2012

Reviewer: Grainne Lennon

Reviewer's report:

- Major Compulsory Revisions

1. Reproducability of 2D gels: The authors made no reference in the methods or text of the document regarding the reproducibility of the 2D gels and analysis. Were technical repeats of the gels and analysis carried out and if so what was the level of reproducibility between the reps.

2: Validation of protein expressions: The authors made no reference in the methods or text of the document regarding the validation of the protein expression profiles. It is worth considering the implementation of a validation experiment such as immunoblotting for specific proteins or immunohistochemistry assays on the histological blocks. This would lend further support to the authenticity of the results and methods.

- Minor Essential Revisions (Minor issues not for publication)

1: Abstract, Paragraph 1: Change “wanted” to “aimed”.

1. Abstract, Paragraph 3: The authors state 44 individual protein spots were identified. Later in the document (Background, Paragraph 6, Results, Paragraph 9) the authors state 33 unique proteins were identified. The authors need to clarify if firstly these proteins are unique rather than individual, and if so change this to the correct number. If the authors are stating that in total 44 proteins were identified then perhaps more value would be added to the abstract by discussing the proteins which are unique and can act as candidate markers for UC rather than discussing proteins which were simply identified.

2. Abstract, Paragraph 4: The authors state that the proteins have been identified as candidate markers for disease severity. This comment needs to be changed as these markers have not been directly correlated to disease severity/activity (eg. Disease scoring indices). These proteins have been correlated to UC disease only.

3. Background, Paragraph 6: See comment 2 above.

4. Methods, Paragraph 1: The authors should give information regarding the Healthy Controls and why these individuals were undergoing endoscope procedures.

5. Methods, Paragraph 1: The authors state the treatments each of the 20 UC patients were receiving at the time of sampling. The number of patients
described total 25. This needs to be clarified.

6. Methods, Paragraph 5: The authors should be more specific in terms of what criteria were manually defined e.g. sensitivity, min peak values, min and max size scale etc.

7. Results, Figures 2 &3: The size and resolution of these images are small making the referenced data points hard to see. Can the quality of these images be improved?

9. Results, Paragraph 8: See comment 3 above.

10. Results, Tables 1: insert a full stop at the end of the table legend

11. References Number 21: Typing error in the title of the reference “Genome-wide”.

- Discretionary Revisions

1. The authors should consider inserting a table listing the 33 identified proteins which are unique in their expression to UC patients.

2. It is worth commenting in the text of the discussion regarding the clinical reasons the healthy controls were undergoing endoscopes. The authors do state that the healthy controls were not patients with colorectal carcinoma, however if these individuals were undergoing endoscoping for reasons such a polyp screening then this should be acknowledged. As stated in the introductions some inflammatory markers can be increased in polyps.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.