Reviewer's report

Title: Bladder inflammatory transcriptome in response to tachykinins: Neurokinin 1 receptor-dependent genes and transcription regulatory elements.

Version: 1 Date: 6 February 2007

Reviewer: Pedro L Vera

Reviewer's report:

General

This is an interesting study continuing and extending the authors’ descriptions of gene expression profiles changes following experimental inflammation of the mouse bladder.

The authors are examining the contribution of NK1 receptors in bladder inflammation by using a NK1 receptor -/- mice strain and comparing it to wild type after antigen-induced cystitis. The authors continue their examination of gene profile changes in the mouse bladder using analysis of transcriptional regulatory elements and various statistical techniques to develop networks that can be classified as NK-1 dependent or independent.

This study and the authors interpretations of the data, present several interesting finding. Their most novel finding appears to be the involvement of Nkx-2.5 in bladder inflammation. The full, physiological significance of this finding remains to be determined, given that is a relatively recently described homeobox gene.

Overall, this study elegantly illustrates the role of NK-1R receptors (and therefore Substance P-mediated responses) on bladder inflammation, and delineates interesting signaling pathways that provide much information for future work and verification.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Although TRE are first described in the introduction, a more detailed description of what they are and their significance would be helpful to the reader.

Pg. 11. Section b. the link under reference [55] does not appear to be working.

Pg. 12. section f. “…gene should be upregulated (ratio between antigen- and saline-treated <3.0)…” This should probably read: “…saline treated >3.0…”. 

Pg. 14. describing the control group (0 hours) the authors mention the bladders were removed without instillation. However, was the catheter still inserted? If not, please state this explicitly, since catheter insertion is likely to cause some irritation.

Pg. 35 References. For ref. #52, please list the full reference, not the manuscript number. In addition, this paper was published in 2006, not 2005 as listed.

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Discretionary Revisions (which the author can choose to ignore)
What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest 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 declare that I have no competing interests