Reviewer's report

Title: A calcium-binding protein S100P in normal and malignant human tissues

Version: 1 Date: 19 April 2007

Reviewer: Ishtiaq Rehman

Reviewer's report:

General Comments:

The authors have investigated the expression of S100P mRNA in a range of normal tissues using quantitative RT-PCR in addition to the expression of S100P protein by Immunohistochemistry, in normal and malignant tissues from a variety of sites. Although the investigation has revealed original data not previously reported in the literature, the rationale for the study/ hypothesis to be tested have not been clearly defined. If the purpose of the study was to assess S100P expression as a cancer biomarker, its not clear why mRNA expression was assessed in stimulated and unstimulated leukocytes. Additionally, its not clear why both protein and mRNA expression was assessed for certain tissues, but in other tissues only mRNA or only protein expression was assessed.

Major Compulsory Revisions:

(i) The specificity of the primers used for quantitative RT-PCR have not previously been validated and therefore should be validated by another method such as sequencing the PCR product from one of the samples.

(ii) It appears that this is the first use of the monoclonal S100P 18-9, antibody. The authors state that they have performed Western blotting using cell lines and ectopically expressing S100P cells. The results of this Western blot are important to confirm the specificity of the antibody and therefore should be shown.

(iii) The way in which the immunostained tissue sections were assess could have been improved. From the immunostained figures the intensity and percentage of stained cells for S100P can be seen to vary. Was the stainig only reported from the most intensly stained areas ? There should be some comment regarding the percentage of stained cells in addition to the intensity of staining.

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

Discretionary Revisions (which the author can choose to ignore)

The introduction is not focussed enough. It could be written to include work from previous studies assessing the usefulness of S100P as a cancer biomarker. The section on S100P regulation by androgens/ IL-6 is irrelevant to particular study.

A table showing the tissue types used for immunohistochemistry and the major cell types stained / sub-cellular localisation of S100P expression would be useful.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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