Reviewer's report

Title: Genetic analysis of the vitamin D receptor gene in two epithelial cancers: melanoma and breast cancer

Version: 1 Date: 19 November 2008

Reviewer: Karen Curtin

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Discretionary revisions

1. Background paragraph, sentence 5: Remove “, for the first time,” and simply state: “In this novel study, we investigated the role of polymorphisms in VDR...”.

2. Introduction, 3rd paragraph, 2nd sentence construction: insert commas before and after the phrase “sporadic BC and MM”.

3. Materials and methods, SNP selection paragraph, last sentence: Based on the references provided, clarify that the two coding SNPs selected have been reported to be associated with breast cancer.

4. Table 2 footnotes: remove quotation remarks around adjustment variables.

Minor essential revisions

1. Background paragraph, 3rd sentence (“It is of general interest the study of the most characterised variants in VDR...) should be revised for proper English grammar and syntax.

2. Introduction, 2nd paragraph (“...there is strong evidence suggesting...”): Provide a reference or support for your statement that the evidence is “strong.”

3. Introduction, 2nd paragraph (“...each finding different effects for SNPs, depending on the population analyzed.” Please clarify; do different SNPs play a role in breast cancer or melanoma, depending on the population studied? Is the same SNP protective in one population, but associated with increased risk in another population?

4. Introduction, 3rd paragraph: You state that it is of interest to study VDR variants in southern European countries where sun exposure is typically higher. Please clarify the comparison; typically higher compared to northern European countries that have been widely studied (if this is the case)? It might be useful to provide support for your statement, for example the average UV index or latitude in Madrid compared to one or two other cities of the Caucasian populations you reference in the previous paragraph.

5. Materials and methods, study subjects, etc. paragraph: For the BC and MM studies, please include the time period (e.g. year, month) over which the
consecutive cases were recruited. What was the cooperation or participation rate for cases in each study?

6. Materials and methods: Were the controls in the BC study frequency matched to cases by age? If so, please state; if not, note that BC controls were not frequency matched to cases.

7. Materials and methods, statistical analysis, paragraph 2: remove comma after MM in: ...”and MM, (eye colour, hair colour, ...).

8. Results and Discussion, association of VDR rs731276 and rs2228570 polymorphisms with cancer risk, 4th paragraph, 1st sentence: correct the typo (“we did not observe” rather than “we did no observe”). Remove the paragraph indentation before the final sentence in this section, include “We did not observe evidence of association with any other SNP in BC or MM.” should be included as the last sentence of the previous paragraph, rather than a one-sentence paragraph.

9. Further considerations paragraph: It should be mentioned that the controls represent a ‘convenience’ sample and were not population based.

Major compulsory revisions

None.

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

**Quality of written English:** Needs some language corrections before being published

**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.