Reviewer's report

Title: Increased tartrate-resistant acid phosphatase (Trap) expression in several malign tumors, patients sera and cell lines, an investigational study.

Version: 2 Date: 11 May 2006

Reviewer: Alison Hayman

Reviewer's report:

General
This is an interesting study containing novel data, but in need of some modification.

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

1. Page 10 lines 2-3 showed concentrations above the upper standard and the concentration was therefore calculated by extrapolation. It cannot be assumed that there is a linear relationship beyond the upper standard. The original samples should be diluted appropriately and re-assayed to obtain a reading below the upper standard, alternatively use a standard of higher concentration if possible.
2. Page 11, last sentence. The expression of TRAP in dendritic cells was used as a positive control in RT-PCR experiments. Why is the data not being shown?
3. Page 9, paragraph 3 of immunohistochemistry results section. The expression of TRAP in gestational tissues was reported to be positive. Either a figure should be shown or this paragraph should be omitted, alternatively an explanation as to why it is not being shown should be given.
4. The phrase TRAP levels has been used many times. I assume this refers to concentration of TRAP protein rather than activity. This needs to be clarified.
5. Table 1: In the column labelled median, the units for TRAP concentration should be inserted.
6. There are quite a few mistakes in the way the paper has been written in terms of the English. This needs to be carefully revised. Some suggestions to help with this are as follows:
a) The word malign used in the title and throughout the paper should be changed to malignant.
b) The words bone affection has been written on several occasions. The word affection should be changed to disease or something similar.
c) The word cultivated has been written on many occasions. This should be changed to cultured.
d) There are a number of minor grammatical errors which should be reviewed.

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

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Discretionary Revisions (which the author can choose to ignore)

7. It is known that TRAP protein concentrations do not necessarily correlate with TRAP activity. This could be mentioned in the discussion. Is anything known about TRAP activity in the serum samples or cell lines?

What next?: Accept after minor essential revisions

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

Declaration of competing interests:
I have a competing interest in that this work overlaps with a study that my group are trying to publish. We had an abstract published in 2004 (Adams et al. Eur. J. Cancer Suppl. 2:108) showing that TRAP is expressed by breast cancer cell lines. The work we are trying to publish shows expression of the enzyme in human breast tumours.