Reviewer's report

**Title:** Alterations in Osteoclast Function and Phenotype Induced by Different Inhibitors of Bone Resorption - Implications for Osteoclast Quality

**Version:** 3  **Date:** 26 February 2010

**Reviewer:** Anne Gingery

Reviewer's report:

The manuscript by Neutzsky-Wulff and colleagues proposes that different bone resorption inhibitors result in distinct osteoclast phenotypes that can each have a particular effect on bone quality. This manuscript has some substantial information regarding the effects of inhibitors on osteoclast cultures and can advance the knowledge of bone regulation as well as therapeutic strategies.

The authors make a substantial effort to address concerns, however some concerns remain.

Major Compulsory Revisions:

The cell viability assay and the TRACP assay remain problematic. Both assays are indirect measures. Since there is a mixed culture of cells in the assays it is essential to analyze the cells not just the conditioned media to determine if viability measures and TRACP are from osteoclasts, not from other cells such as monocytes and macrophages. While it appears that this correlation may exist it must be verified. The results either need to be qualified or the cell counts need to be completed to verify survival numbers and TRACP activity levels are specific to osteoclasts.

TRACP assay data should be included in the paper, as it is used repeatedly to justify the results.

Minor Essential Revisions.

There remain some grammatical issues in the paper, including the use of “medium”.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I declare I do not have competing interests.