Reviewer's report

Title: The antiapoptotic gene survivin is highly expressed in human chondrosarcoma and promotes drug resistance in chondrosarcoma cells in vitro

Version: 1 Date: 2 December 2010

Reviewer: Judith V Bovee

Reviewer's report:

Lechler and colleagues present some very interesting results on the expression of survivin in chondrosarcoma of bone and their data suggest that its expression is related to chemoresistance. Since chondrosarcoma is highly resistant to conventional chemo- and radiotherapy, these are highly relevant findings. The experiments seem well performed and the manuscript is well written.

There are however still some drawbacks of the manuscript:

1. the number of tumor specimens analyzed is rather small, while the number of high grade tumors is relatively large, therefore the results might not be representative for CS in general. The authors should explain why there is a disproportionate number of grade III chondrosarcomas, which are in general quite rare.

2. although results were obtained by different antibodies, the photographs of the immunohistochemistry reveal staining in all cells, including normal stromal cells and extracellular matrix surrounding the tumor. This is puzzling since survivin was claimed to have oncofetal expression, i.e. to be absent in normal tissue. The fact that expression was validated using western blot and RT-PCR is however reassuring.

3. The same holds for the faint band seen in fig 1F; it seems that there is some expression in normal cartilage. In the discussion (although wrongly referred to fig 1D) this is acknowledged as such, although not explained, while in the results the 6 articular cartilages are stated negative.

4. the knock down of survivin is convincing at the mRNA level, however not at the protein level in SW1353

5. it is puzzling that despite the fact that there is knock down of survivin, there is still an increase in viable cells (fig 4A), although proliferation is reduced and there is apoptosis. The authors should comment on this.

6. chondrosarcomas are considered a heterogeneous group of tumours which is also reflected by the different behaviour of the two cell lines (fig 6). The manuscript has benefited from the addition of an extra cell line, although the chosen cell line is not very well documented. It would be good to have more information on the Hs 819.T cell line since this is only poorly documented in literature and at the ATCC website. For instance, is extraskeletal myxoid chondrosarcoma excluded (i.e. absence of translocation)? This would be crucial.
Thus, results are interesting and relevant but should be interpreted with caution given the major drawbacks mentioned above.

**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