Reviewer's report

Title: Gene expression analysis of cell death induction by Taurolidine in different malignant cell lines

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Reviewer: Isabelle Opitz

Reviewer's report:

For the Author:

Chromik and co-authors analysed gene expression by microarray analysis in 5 different malignant cell lines (colon cancer, liver, pancreas carcinoma (2x), fibrosarcoma). The antiproliferative and pro-apoptotic effect of taurolidine, which has already been assessed in vitro and in vivo (in experimental and in clinical studies) (1-3) were confirmed in the underlying study. Transcriptional profiling of taurolidine treatment was assessed in previous experiments performed by the group analysed in an esophagus carcinoma and fibrosarcoma background. In the present study 5 different cell lines of 4 malignancies were studied and an up-regulation of a subset of genes encoding functions such as "cell death" "cell growth and proliferation" and "cell cycle" during treatment with taurolidine in a dosage of 250uM was observed. Further validation by qRT-PCR of 5 genes exhibiting the strongest induction after taurolidine treatment was performed. The authors have to be congratulated to this study contributing to further elucidation of the taurolidine mechanism of action.

Minor essential revision: Although taurolidine seems to be effective in a large panel of several malignancies, there seems to be a quite distinct difference of activity level. It would be interesting if the authors could discuss this issue – the different activity levels in relation to the carcinogenesis of the several malignancies - in their discussion.

References:


Level of interest: An article of importance in its field

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'