Reviewer's report

Title: Neuroblastoma and pre-B lymphoma cells share expression of key transcription factors but display tissue restricted target gene expression.

Version: 1 Date: 3 September 2004

Reviewer: Steffen Junker

Reviewer's report:

General
In this report the authors have compared gene expression patterns in human lymphoma and neuroblastoma cells lines. A high degree of similarity in overall gene expression patterns is found. Specifically is shown that pre-B lymphoma cells and neuroblastoma cells share expression of the transcription factor genes encoding EBF, Pax-5, and E-proteins, although at variable levels in the different cell lines. The findings are interesting because all three transcription factors are crucial for B cell development. Despite the fact that expression levels are comparable in some of the pre-B and neuroblastoma cell lines, two known target genes in B cells, mb-1 and CD19, are not expressed in neuroblastoma cells. However, following treatment with the chromatin modulating drugs azacytidine and trichostatin A expression of mb-1 was induced, but not of CD19, suggesting that specific mb-1 regulation is dependent on chromatin status.

Overall, this is a nicely presented report, presenting novel and interesting data. To better evaluate expression levels of transcription factor genes, RNA analyses based on Northern blotting, RNase protection assays or RT-qPCR, and protein analyses by Western blotting would have been informative to complement the data presented. However, the documentation is adequate for the conclusions of the report.

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

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

Discretionary Revisions (which the author can choose to ignore)

p. 6 l. 6: Denhardt's instead of Denharts (to credit an author at least the spelling of his name should be correct...)

What next?: Accept after discretionary revisions

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
None