Reviewer's report

Title: Dexamethasone inhibits the HSV-tk/ ganciclovir bystander effect in malignant glioma cells

Version: 1 Date: 1 October 2004

Reviewer: Jarmo Wahlfors

Reviewer's report:

General

The authors present here an interesting finding of interfering action of dexamethasone on the Tk/GCV suicide gene therapy and particularly the bystander effect. Since Dex treatment is commonly given to brain tumor patients as symptomatic treatment, it is indeed important to acknowledge this effect. The study includes only in vitro experiments with one rodent glioma cell line. Yet this is apparently a proof-of-principle study and deserves to be published as such, it would be important to verify this interaction in other (human) cell lines and eventually in an animal tumor model.

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)

- the language should be checked by a professional or a native speaker. English in this paper is not poor, but it contains a significant number of awkward wordings and sentences. Polishing the language would greatly improve the clarity of the paper. Some mistakes (like that in the last paragraph of the results "...was 46.75+- 9.3% smaller than in control conditions." instead of "...was 46.75+- 9.3% of the survival of the control cells...") makes the text difficult to read or even vulnerable to misinterpretations.

- also, spell checking is easy nowadays and worth the effort

- page numbers were missing in the manuscript, figure legends should be part of the actual manuscript (not a supplement)

Figures need some editing

- Fig.1: do not use shading for different bars, plain black & white works much better; instead of obscure cell ratios, rather use the percentages of TK-positive cells (as indicated in the figure legend)

- Fig.2, panel B: it was quite difficult to figure out, where exactly the resulting new fluorescent cells are in the plots, perhaps you should indicate in the legend that they can be found in upper right quadrant (many readers are not even that FACS-literate as I am...); the proportion of cells in each quadrant should be inside the boxes, also use larger font size for improved reading.

- Fig.3: what are the two different "0" -data points on the x-axis? Negative values of Y-axis should
not be used; try to indicate the number precisely i.e. use exponential values correctly (10^-6M does not make any sense as such)

- Fig.4: again, no shadings should be used here, just black bars; see comment above regarding 10^-6M; check for accurate spelling of all labels in figure (micro, ctrl)

Discretionary Revisions (which the author can choose to ignore)

- Speculation of the generality and nature of the phenomenon (i.e. presence in other cell lines, dependence on the level of the bystander effect/growth rate) would be nice. Also, indication of the on-going follow up studies wouldn't hurt.

- materials: indicate also the ATCC catalog number of the cell line

- last chapter of the results: authors are talking about decreased proliferation, I'd use "viability" (that's what MTT assay detects, to my opinion)

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:

none