Reviewer's report

Title: TKTL1 expression in human malign and benign cell lines

Version: 1 Date: 1 August 2014

Reviewer: Stefan Walenta

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Major Compulsory Revisions

The study presented by Kaemmerer and colleagues is clearly conceived and experimentally well implemented. The interpretation is logical and conclusive and is certainly a valuable contribution to metabolism of malignant tumours.

The following supplementations would definitely enhance the value of the study.

(1)
The results of the measurements of metabolic activity are summarised in Fig. 3. This illustration is however not particularly lucid – and, in contrast to the presentation of the other data – makes the interpretation of the results difficult for the reader to grasp. The force of expression would have been considerably enhanced when the details of the metabolic measurements had been more definitely presented. An additional table or the insertion of mean values on the columns would have been more helpful.

Apart from the foregoing, the following queries concerning Fig. 3 appear:

Do the columns and the dispersion bars represent mean values and the standard deviation? Please indicate.

Some columns show large dispersion bars (for example the glucose consumption of HCT1116 under 1% oxygen). What was the reproducibility of the measurements? Were the measurements repeated several times with separate approaches ('N')? Were repeated measurements ('n') of an approach conducted?

How valid do the authors estimate the measurements?

The indication of a consumption rate or a production rate should refer to a period of time; and these should be specified in the legend to the figure. Is the time period really 6 hours as indicated in the Methods section? What were the concentrations of glucose and lactate at the beginning of the experiments? After all, a fresh culture medium would also contain lactate.

The calculation of a consumption rate or a production rate depends sensitively on the actual cell count. Were the seeded cell counts for the metabolic measurements verified after the sampling?
The data of the three 'core' cell lines HTC116, JAR and Mel2A should be shown in all the illustrations as well as also in Figs. 1A, B and 2A.

Minor issues not for publication

(1) Please use throughout decimal points instead of decimal commas (for example see line 207)
(2) Line 40/41: Change „one cell line“ to „one established cell line“
(3) Line 235: Delete point after „Sigma“
(4) Line 241: Delete one of the two points after „temperature“
(5) Line 354: Include point at the end of the sentence: „TKTL1 protein“
(6) Line 388: Change „was comparable indicating an unspecific staining pattern …“ to „was comparable strong indicating an unspecific staining pattern …“

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

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