Reviewer's report

Title: Analyzing the regulation of metabolic pathways in human breast cancer

Version: 2  Date: 25 May 2010

Reviewer: Bas Teusink

Reviewer's report:

The paper was improved according to my previous comments, and it is ok now. I just came across a few typo's and mistakes that the authors may wish to change.

Background, first paragraph:
"70-80% of the patients would have survived without [chemotherapy]" --> for how long?
"remains to be poorly understood" --> "remains poorly understood"
"due to incompleteness or erroneous in the available data" --> erroneous use of the word erroneous.
The first paragraph of the background section should be split up into smaller paragraphs.

Results and Discussion:
"dense packed reactions" --> "densely packed reactions" (unless I am unaware of an alternate meaning of "dense packed reactions")
"were preserved as optimal as possible" --> "were preserved as optimally as possible"

Pathways for energy supply were significantly up-regulated:
"Glycolysis is increased in cancers to generate ATP" --> as far as I'm aware of, all we know is that glycolysis is increased in cancers and that this generates ATP. Any other connection between these facts would be speculative. Also, in this paragraph, other assumptions about the Warburg effect are made.
"extend" --> "extent"
"analog" --> "analog" (analogue is British English, the rest of the manuscript is in American English)
This section could be split up into smaller paragraphs to improve readability.

Biosynthesis of steroids and bile acids:
"elevated concentration of DCA was detected" --> "elevated concentrations of DCA were detected"
This section could be split up into smaller paragraphs to improve readability.

Analyzing a second dataset
"12 pathways with significant differentially regulated patterns" --> "12 pathways with significantly differentially regulated patterns"

Conclusion:
"in respect to" --> "in order to" (?)

Preparing the microarray data:
"except of" --> "except for"

In the text, "ambiguous samples" are defined as those with a time recurrence <3 years without metastasis. No mention is made of samples with a time recurrence >3 years but <5 years. How were these treated, if they existed?

References:
21: "Glykolysis --> glycolysis"

**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