Reviewer's report

Title: Impact of RNA degradation on gene expression profiling

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Reviewer: Maria Ravo

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'Impact of RNA degradation on gene expression profiling'
Lennart Opitz, Gabriela Salinas-Riester, Marian Grade, Klaus Jung, B. Michael Ghadimi, Tim Beissbarth and Jochen Gaedcke
BMC Medical Genomics
Research article

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In the manuscript by Opitz et al, the authors evaluate the Impact of RNA degradation on gene expression profiling. They performed whole genome expression profiling after inducing a time-dependent degradation of RNA from three patients affected with rectal cancer. The question posed was well defined by the authors, the abstract is clear and conveying with what they have done; the methods they used are well described. The writing is pretty correct and easily understandable. The data are sound even though they used only one platform (Agilent) to investigate the effects of RNA integrity on gene expression profiling.

- Discretionary Revisions

1) The manuscript needs some more references, particularly on page 8 (Characterization of sequence features in differentially expressed genes: “Taken into account that many of the RNA degradation processes start from the 5'-end…”)

2) They should also better explain how do they postulate or “demonstrate” up-regulation of very long genes

3) The authors should clarify how did they perform the data analysis represented in the diagram in figure 3A (a: Was the analysis performed focusing on a single patient’s RNA? b: Do the DEGs come from the comparison of the analysis considering the RNAs of the three patients at the different times of degradation?) (see page 7)
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.