Reviewer's report

Title: Prediction of acute multiple sclerosis relapses by transcription levels of peripheral blood cells

Version: 1 Date: 26 January 2009

Reviewer: Francisco Quintana

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Prediction of acute multiple sclerosis relapses by transcription levels of peripheral blood cells
Gurevich et al.

In this work, Achiron and coworkers analyze the transcriptional profile of total PBMC to identify sets of genes that stratify patients based on their probability of developing an MS attack in the future. The question posed by the authors is well defined and extremely important for the management of MS.

Major compulsory revisions

The results presented in the manuscript could reflect the over-fitting of the classifier to the dataset, which was used both to construct the classifier and to evaluate its performance. In other words, the utility of the classifiers that they have produced might be restricted to the set of samples under analysis and might not be applicable to other sets of MS samples. Thus the authors might want to validate their results on an independent test of samples. Alternatively, they should state that the validity of their results is limited by the lack of validation on an independent test set.

Minor essential revisions

The manuscript has to be edited to improve its clarity and make it more accessible to the readership of BMC Medical Genomics. The logical process that led the authors to make each step of the analysis is not clear. The authors may have made a mistake while uploading the paper, since the pdf analyzed by this reviewer had many of its figures mislabeled.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
Our research also involves the use of arrays to stage MS patients.