Author's response to reviews

Title: Gene expression profiling unveils a novel biomarker combination for the diagnosis of serious bacterial infections in children

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Dear Editor

We are pleased to submit a manuscript entitled “Gene expression profiling unveils a novel biomarker combination for the diagnosis of serious bacterial infections in children”

The search for an accurate biomarker of sepsis to influence clinical practice has become the holy grail of sepsis, but to date the search has been disappointing. Biomarkers that are involved in the pathophysiology of sepsis are likely to be the most informative, and the involvement of several different pathways also increases sensitivity. Transcription profiling has been used in other diseases to identify candidate biomarkers. We believe that our manuscript is novel, in that it describes a pathway from discovery using transcriptomics, to validation in an independent cohort. We have chosen candidate biomarkers on the transcription profile that had a strong a priori evidence base. We have also demonstrated translational concordance with the corresponding protein, which further confirms that our findings are a major advance in the search for a reliable diagnostic for bacterial infection. Our manuscript will be of interest to a broad readership; geneticists, clinicians and scientists interested in biomarker discovery, infectious diseases and translational medicine. Our manuscript reports the application of genomics to understand molecular biological processes in sepsis, and subsequent translational to clinical care by informing reliable biomarker candidates. As such, we believe that BMC Medical Genomics is the ideal journal to publish our innovative findings in the genomics of sepsis, which contributes massively to the global burden of disease.

We would be happy to shorten the manuscript on the advice of the editors, or to include some of the methods, figures and tables as supplementary data.

Yours sincerely

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