Answer to the reviewers

October 8th, 2013

Dear Editor,

Thank you very much for the review and comments regarding our manuscript.
Please find enclosed the edited manuscript in Word format (file name: 5040-review).

Title: Molecular Recognition of Live Methicillin-Resistant Staphylococcus aureus Cells using DNA Aptamers

Authors: Diane Turek, Dimitri Van Simaeys, Judith Johnson, Ismail Ocsoy, Weihong Tan

Name of Journal: World of Translational Medecine

ESPS Manuscript NO: 5040

We have addressed these comments carefully and revised the manuscript throughout. The responses to the comments are listed point by point.
We greatly appreciate the reviewers' suggestions regarding improvement on this paper. We hope that the revised manuscript is now suitable for publication. If you have any questions, please do not hesitate to let us know. Thank you very much for your time and consideration.

Response to Reviewer 00503442's comments:

1. The authors should pay attention to the Journal guidelines for Authors, especially for the Reference Section.

In the revised document, references were put into the proper style and format recommended by the guidelines for Authors. The format of the references numbering within the text was also updated.
Tables were added at the end of the document.

2. The sub-heading "Instrumentation, reagents and buffers" seems too vague for explaining the methodology underlying the PCR.

In the revised document, the sub-heading "Instrumentation, reagents and buffers" was replaced by a more appropriate and more precise sub-heading: "PCR and flow cytometry instrumentation and experimental conditions".

Response to Reviewer 02510582's comments:

1. The picture quality of Fig 1,2,3 is very poor. Increase the resolution and font size of the written matter.

In the revised document, all font size, especially captions and x, y-labels, were increased. All pictures resolutions were increased from 72 DPI to 150 DPI (highest available).

2. Add error bar in Fig3 to show the reproducibility of the Kd determination. How many times Kd was determined for each sample.

As asked, error bars were added in the curve of Kd value determination example (Figure 3). Kd values were determined three times and are summarized in Table 3. Please note that when the triplicate values were very close, the scale does not allow the error bars to show on the graph.

3. The results shown by the authors are not completely quantitative. Please add the detection limit and also include the calibration plot for the MRSA detection.
4. It is must to show the real sample analysis data either by spiking or using standard addition method to confirm the applicability of this developed method in real sample analysis. Also add the regression equation for detection of MRSA.

Both comments 3 and 4 are related to analytical chemistry studies. In our investigation, we aimed to generate aptamers and show the bacteria surface recognition by the aptamers weither the bacteria is fixed or alive. Bacteria clinical samples were used to validate those results on a panel of bacteria strains since the selection study to generate those aptamers was performed on one single strain of *methicillin-resistant Staphylococcus aureus*.

Thank you again for publishing our manuscript in the World of Translational Medecine.

Yours sincerely,

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