Point-by-point response for reviewer #1

Reviewer's point #1

This paper reminds the problematic of the dosage of mycotoxins in fluids and tissues and the difficulty to do so and to correlate the results with the values measured in food and feed.

Author response #1

We agree with your consideration about comparing mycotoxin tests optimized to work with food or feed matrices versus the human serum matrix used in our study. However, we lack precedence in academia and industry for similar immuno-recognition tools using the human serum. As a result, we have added table S2 in the supplementary file that contains information on matrices for each test used for comparison in tables 2 and 3. Legends for tables 2 and 3 refer to table S2 and make clear to the readers that the comparison should not be considered a head-to-head comparison. We have also added a new paragraph in the discussion section explaining the lack of precedence for a similar immuno-recognition in human biofluids (lines 388-397).

Reviewer's point #2

In the abstract and in the key contribution, it's not precised which fumonisin is measured.

Author response #2

Corrected and clarified (line 7).

Reviewer's point #3

L44 : when you sum up in one sentence the action of each mycotoxin, it's strange that you cite this one in particular for the DON. Beacuse it's not the one that we think when we talk about DON.

Author response #3

We have updated the role of DON as protein synthesis inhibitor (lines 52 and 53).

Reviewer's point #4

Table 2 and table 3 : can you indicate for which matrices are these results, because it's not clear in which matrices are done each test that you compare.

Author response #4

We have added table S2 in the supplementary file that contains information on matrices for each test used for comparison in tables 2 and 3.

Reviewer's point #5

In the legend of figure 1, « %B/B0 » is not defined and there are « no b) »

Author response #5

We have added and explanation for %B/B0 in figure 1 legend.

Reviewer's point #6

Concerning the validation of your method, why didn't you do a comparison with a reference method, as HPLC-UV or HPLC-MS, to confirm your results and your sensitivity of detection ?

Author response #6

Our goal in the present study was to provide a proof of concept that ELISA can be used to measure multiple mycotoxins in human serum. We see the value of adding LC results, but the machines are expensive, and accessing them is difficult. However, we have used mycotoxin reference material with

certified purity using an LC technique by the manufacturer. Also, in table S1, we demonstrate that the serum sample is negative for AFB1, DON, FUM, OTA, and ZEA. We have expanded the last paragraph of the discussion section to make clear our future goal to validate the test clinically and create an LC method that can confirm ELISA results (lines 399-406).

Reviewer's point #7

In the discussion part you don't discuss the problematic of correlating your results to what it's found in raw materials/feed/food ; Do they exist a correlation factor and for each mycotoxin ? Because it's really an important problematic, how to use your obtained data in sera and correlate them to the mycotoxins exposure and to the toxic effects known.

Author response #7

We have added a new paragraph in the discussion section explaining the assay performance comparison in tables 2 and 3 is not a head-to-head comparison of detection capability and recovery percentages but rather a comparison between our assay that shares standard features with the other tests (tables 2 and 3), like establishing direct detection and non-linear calibration curves with unmodified reference standards for all mycotoxins (lines 393-397).