SDI Review Form 1.6

Journal Name:	**International Journal of Biochemistry Research & Review**
Manuscript Number:	**Ms_IJBCRR_40032**
Title of the Manuscript:	**PSP toxins in Moroccan shellfish by mouse bioassay, high-performance liquid chromatography and Receptor Binding Assay (2004-2016)**
Type of the Article	**Original research paper**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**General comments:** The idea is relevant and applicable. However, the work has several issues. The authors did not reinforced the importance and the innovations of the study. Additionally, a major English review should be made. **Title:** The title did not reflect the innovation and importance of the work. **Abstract:** Comments: consider revising the abstract information. Line 9: Review the concept of Paralytic shellfish poisoning (PSP) and Paralytic shellfish toxins (PST) and consider rephrasing: "Paralytic phycotoxins or PSP (Paralytic shellfish poisoning) are secondary metabolites of phytoplankton toxic species the consumption of shellfish accumulating these toxins can cause neurological symptoms and even death." Line 15-18: Confusing and ambiguous methodology, consider review. "The determination was carried out bi-monthly to weekly using the official method AOAC 959.08 by the mouse bioassay (MBA). In parallel, monitoring of toxic phytoplankton in water was conducted. In the aim to determine the shellfish toxin profile, high-performance liquid chromatography with fluorescence detection (HPLC-FD) was performed. The Receptor Binding Assay (RBA) also was used for determination of PSP toxins in Agadir's mussels." **Introduction:** In order to improve the quality of this work and reinforce its importance the authors should provide more information concerning the algae life cycle and toxins produced by them, the mussels organs were these toxins accumulate and the toxin effects in human/animal body; besides providing information about the consumption of mussel by Moroccan population; Line 35/36: Why these toxins were detected in bivalves? I know it seems obvious, but make sure that the reader has all the information clear. **Objective:** Line 44-46: Consider rephrasing: "Moreover, an investigation of PSP toxin profile was conducted by HPLC-FD. RBA method was also used for the detection of these toxins; the results of different methods were compared by presenting the advantages and disadvantages of each test." **Material and Methods:** Major comments: the methodology is confusing and the lack of information make it more difficult to understand. Section 2 - Line 48: Typing error. "Materiel" -> "Material". Section 2.1- Line 51: "Two shellfish species were taken…" Which shellfish species were used in the study? Identify them. Section 2.1 - Line 52: Provide the coordinates of the sampling sites (e.g. 23o46'92N-15o55'59W). Section 2.1 - Line 52: The collection areas are the same as those used for the capture of mussels for human consumption? Why did you choose these specific locations? Please add this information in the section. Section 2.1 - Line 52-54: Why did you collect mussels at Agadir and Dakhla bay in different periods? Section 2.1- Typing errors. Line 52: "Mussels" -> "mussels". Line 54: "Three" -> "three". Line 55: "Water" -> "water". Line 56: "Samples" -> "samples".	

	Line 55: “In parallel, water samples are collected…” use the proper verbal tense. Line 57: “The samples are kept…” use the proper verbal tense. Section 2.2.1- Line 67/68: Consider rephrasing: “The MBA procedure was carried out following AOAC official method 959.08 [9] 100±1g shellfish flesh 68 homogenate in 100 ml 0.1 M HCl.” And add more information about this methodology (AOAC 959.08). Line 68: How the shellfish extract was administrated in the animals? Why did you use only 3 mice? Please include both information in this section. Section 2.2.2: This methodology should be rewritten once it is extremely similar to the methodology found in the following article and could be considered plagiarism. Ref: *Abouabdellah R, Taleb R, Bennouna A, Erler K, Chafik A, Moukrim K. Paralytic shellfish poisoning toxin profile of mussels Perna perna frsouthern Atlantic coasts of Morocco. Toxicon, 2008; 51(4): 780-786.* Section 2.2.2/2.2.3: RBA was used only to analyze Agadir´s (Dar sfint) samples? What about Dakhla bay samples? Which analysis was performed? In order to facilitate the reader's understanding, inform which procedure (HPLC and RBA) was used to analyze the each sample. Section 2.2.3- Line 89: “Extracts obtained by the AOAC 959.08 method are filtered…” use the proper verbal tense. Section 2.2.3- Line 96: “The counting of the completed radioactivity is performed…” use the proper verbal tense. Section 2.2.4- Line 103: “Observation is carried out using…” use the proper verbal tense. Section 2.2.4- Line 104: “The determination is made…” use the proper verbal tense. Section 2.2.4- Line 105: “The counting is performed with…” use the proper verbal tense. Section 2.2.4- Line 105: “The results densities are expressed…” use the proper verbal tense. **Results and Discussion:** Major comments: Considering that different concentrations of Alexandrium spp were found among seasons, a graphic showing this oscillation should be presented. The discussion is weak and does not have sufficient theoretical basis to explain the observed results. In fact, most of it is just the presenting data. Section 3.1- Line 111/112: Consider rephrasing: “In Agadir (Dar sfint area), five periods of PSP toxicity were recorded during the studies period from 2010 to 2016, toxins were found in 23 of 362 analysed samples (6.62%) (Fig2).” Section 3.1- Line 112/113: Consider rephrasing: “The year 2012 recorded the longest period of toxicity (7 weeks) against the shortest one was noted in 2013 (1 week). But in 2015, the highest concentration of toxins in mussels in this region was recorded (6 weeks of toxicity).” Section 3.1: Explain the probable cause of this spatial and temporal variability of algae concentration, relating to life cycle of this organism. Which environmental conditions contribute to the algae reproduction? Section 3.1- Line 122: “…phytoplankton Alexandrium spp shows a significant…” use the proper verbal tense. Section 3.1- Line 122: “…a significant spatial and temporal variability” If you had significant results, provide the p value. Section 3.1- Line 133: “The analysis of PSP toxins by MBA shows that many samples contains high…” use the proper verbal tense. Section 3.1- Line 273-275: Consider rephrasing “This toxin profile is very close to that of *Alexandrium minutum*, according to the specie collected from Cap Town (South Africa) has a same profile with dominance of gonyautoxins (GTX1-GTX4)”. Section 3.2- Line 283-284: Consider rephrasing: “Figs.8 and 9 illustrate comparison between toxicities of HPLC and MBA and that between RBA and MBA.” Section 3.2- Line 293-296: What does this correlation mean? Discuss this data. “When the data from MBA and RBA were compared, a good linear correlation was found r = 0.809, for high concentrations the RBA did not report any false negatives. For	

	concentrations below or near to the regulatory limit, some differences between the two methods were found; this difference concerned 25% of analyses samples." Figure 8 and 9: n=8? n=12? This information was not provided in the methodology. **Conclusion:** Consider review. **Figures:** Legends: Provide more information. Add, in all figures, the performed analysis and the statistical analysis used. Figures 1, 2, 5 and 6: Please, provide figures with higher quality. Figure 2 and 4: The analysed parameters must be informed in the graphs axes (e.g. time, number of samples, percentage). Figure 8 and 9- legends are inverted. **References:** Consider revising all references and make sure that they are all in the same format.	
Minor REVISION comments		
Optional/General comments		

As per the guideline of editorial office we have followed VANCOUVER reference style for our paper.
Kindly see the following link:

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Reviewer Details:

Name:	***Gabriela Missassi***
Department, University & Country	***Department of Morphology, Institute of Biosciences, São Paulo State University (UNESP), Brazil***