

Peer Review Report

Review Report on Marine natural products: Potential agents for depression treatment

Review, Acta Biochim. Pol.

Reviewer: Łukasz Grabowski

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Article DOI: 10.3389/abp.2024.12569

EVALUATION

Q 1 Please summarize the main theme of the review.

The work by Wang et al, presents an extremely important phenomenon in the search for potential drugs to treat depression. According to the World Health Organization's 2023 data, up to 5% of adults globally have depression, and the number is likely to be even higher, as not everyone suffering from depression receives an official diagnosis. Common types of drugs such as SSRI, NERI and others have many side effects. That's why it's important to look for alternatives that are safe and effective. Marine natural products can be such alternatives.

Q 2 Please highlight the limitations and strengths.

Reading the manuscript brought up a few questions and issues that need to be clarified before publishing the paper:

I. Major:

- 1) After reading the manuscript, I feel confused. I am very surprised by the disproportion between the presentation of the various subsections. On the one hand we have an excellent presentation of the action of compounds such as Tilapia skin peptides (TSP), and on the other hand laconically written chapters on, for example, Krill Oil. Why don't the authors indicate the potential mechanism of action of the compounds ? The cited paper (Wibrand et al., 2013) indicates that Arc has key regulatory roles in protein synthesis-dependent synaptic plasticity and krill oil treatment induced Arc in the male prefrontal cortex. The authors completely ignore this fact.
- 2) The same applies to the subsection 5,6-dibromo-N, N-dimethyltryptamine (5,6-Br-DMT) and most compounds extracted from marine plants. Please complete throughout the text the information from which organisms the compounds were isolated ?
- 3) Subsection Resolvin D1 – The paper cited by the authors explains that the action of Resolvin D1 could activate Akt, could bind 2 G-protein-coupled receptors (ALX and GPR32). Please add the following.
- 4) Subsection Spirulina – please complete this chapter. Other papers evaluating the antidepressant effects of spirulina are known, e.g. 10.2147/NDT.S247599; 10.22038/ijbms.2021.54800.12291
- 5) Figure 1 is blurry. Please provide the figure in better quality. At the moment, the authors mention 4 potential hypotheses for the mechanism of depression citing Figure 1 (Lines 57–59), while the figure caption is: "Figure 1: The anti-depression mechanism of MNPs." Please standardize or add an appropriate description of Figure 1.
- 6) I would very much like to ask the authors to discuss the following issue:
 - a) The current regulatory situation regarding the use of MNPs ? How can the commercialization of such compounds proceed ?

II. Minor:

- 1) Lines 31–32 – Please provide an estimate of the incidence of depression worldwide
- 2) Lines 362 – In vitro and in vivo in italics
- 3) Please standardize the bibliography.

Q 3 Does the review include a balanced, comprehensive and critical view of the research area?

Yes, it does.

Check List

Q 4 Is the English language of sufficient quality?

Yes.

Q 5 Is the quality of the figure(s) and/or table(s) satisfactory?

No.

Q 6 Does this manuscript refer only to published data? (unpublished or original data is not allowed for this article type)

Yes.

Q 7 Does the manuscript cover the topic in an objective and analytical manner

No.

Q 8 Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Q 9 Does the manuscript include recent developments?

Yes.

Q 10 Does the review add new insights to the scholarly literature with respect to previously published reviews?

No.

Q 11 Please provide your detailed review report to the editor and authors (including any comments on the Check List)

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QUALITY ASSESSMENT

Q 12	Quality of generalization and summary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q 13	Significance to the field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 14	Interest to a general audience	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 15	Quality of writing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>