



SDI Review Form 1.6

Journal Name:	International Journal of Biochemistry Research & Review
Manuscript Number:	Ms_IJBCRR_43273
Title of the Manuscript:	Nutrients and Constituents Relevant to Antioxidant, Antimicrobial and Anti-Breast Cancer Properties of Salvia officinalis L.
Type of the Article	Original Research Article

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. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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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	1- Line 19: I don't agree with the pharmacological effect as anti-inflammatory suggested by the authors once they assess the antibacterial, antioxidant and cytotoxic effects and do not assess its anti-inflammatory effect. 2- Line 23: since the authors only evaluate the <i>in vitro</i> cytotoxic activity against MDA-MB-231 cell line, they should not extrapolate to anticancer activity. Thus they should write "...and cytotoxic effect against breast cell line." instead "...and anti-breast cancer." 3- Line 28: try to cite more recent bibliography. For example, "Int J Mol Sci 2018, 19, e263; doi:10.3390/ijms19010263; 4- Lines 32-33: add an adequate reference to support this sentence. 5- The authors should indicate which taxonomy specialist is responsible for the correct identification of the species studied, they should indicate the voucher number and the reference herbarium where the voucher is deposited. 6- Table (2), column "contents: Please indicate the correct units here (g/100g). Grams only is impossible. 7- Table 5: The standard deviation associated to the DPPH activity mean is too high (more than 30 % of the mean value). This is unacceptable, even more in a spectrophotometric assay. Please repeat the experimental work until obtained a low standard deviation (maximum 10% of the mean value). 8- Tables 5 and 6 please add the value of antioxidant activity, reducing power, antimicrobial activity for adequate reference compounds (for example quercetin, BHT, and vancomycin) used as positive control, obtained in the same experimental conditions as the <i>Salvia officinalis</i> leaves extract. 9- The authors should re-write their manuscript after they modify their concept of strong activity. In fact, MIC, EC50 and IC50 values indicated in the manuscript are in mg/mL level and this is too high to be considered interesting values. If the authors had evaluated under the same experimental conditions, the activity of the extract and the activity of reference compounds as those suggested above (compounds used in industry as antioxidants and in clinical therapeutics as antibacterials), the authors would have this notion. All these compounds exhibit activity with IC50 and/or EC50 values below 20 micrograms / mL. Even cytotoxic activity can not be considered strong. In extracts IC50 values above 40 micrograms / mL are considered, by the NCI, of little interest with a level of activity that does not justify future studies as cytotoxic. Please modify the sentence where you use terms as strong activity or to remarkable antimicrobial. 10- Lines 113-120: these informations are not about antioxidant activity neither pharmacological potential. Please remove from this section and put 11- 164-169 and table 2: the content of amino acids are express how? Mass of each compound per 100 g of what? Please clarify. 12- Lines 171-176 and table 3: Something is not correct with the results of fatty acid analysis: There are 3 types of fatty acids: saturated, monounsaturated and polyunsaturated fatty acids. If the results are present as g of a specific fatty acid per 100 g of total fatty acids, thus the sum of percentage of all detected fatty acid must be 100 %. However, the results of table 3 show less than 58%. The question is: what are the fatty acids included in total fatty acids and not specified in Table 3? And, where are the remaining 42% of fatty	1. All required corrections either been conducted and changes were highlighted in yellow, or have been replied for in the following comments. 2. Comment (5): Concerning the taxonomy of the species studied, the voucher is not available, but the source of the pathogenic strains used in the research was added in Material and Methods related part. 3. Comment (7): Concerning the standard deviation associated to the DPPH activity, sorrowfully the experimental work is too hard to be repeated, but your valuable comment would be taken into account in future work. 4. Comment (8): Concerning the reference compounds used as positive control, the standard compounds were applied in standard curves (not as a single value to be represented in results' table), to calculate the concentrations using the slope equations and were as follows: for the DPPH and reducing power, Ascorbic acid was used as a standard, Gallic acid for phenolic and Catechol for flavonoid determination. 5. Comment (11): Amino acids are expressed in (g/100g), which have been corrected in results, discussion and tables to be clarified. 6. Comment (12): Percent provided in manuscript including tables is calculated upon % of total fat content which is 3.46 g/100g sample (Table 1). Taking into account that the HPLC results is dependent on only <u>applied available standards</u>, which mean that this may not represent <u>all</u> fatty acids content but it could give an indication of fatty acids ratios in plant composition. 7. Comment (13): Phytochemical analysis methodology (represented Lines 113,114). As qualitative analysis its results represented in +/- manner so authors agreed not to display these results in a separate table and were satisfied with mentioning only the (+) phytochemicals in discussion. Whilst, the phenolic and flavonoid quantative analysis were conducted via HPLC, which was modified for clarification in title of (Table 4). 8. Comment (14): Checked and corrected 9. Comment (15): Concerning polyunsaturated/ unsaturated fatty acids, has been checked and corrected not only in conclusion part but also all over the manuscript.



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	acids not listed in Table 3? 13- Lines 187-190: where is the results that support this sentence? Here you write qualitative analysis. The table 4 present a quantitative analysis but the experimental section doesn't explain how do you quantify the compounds presented in table 4. It is very confusing. Please clarify. 14- The authors must review carefully all the section 3.3.2. Antimicrobial activity since the numeric values indicated in this section are not in agreement with the value of table 6. In this table I didn't find concentration value of 75 mg/mL, neither inhibition zones of 23 mm, neither 25 mm. 15- Line 306: "and polyunsaturated fatty acids (PUFAs) ω-3, ω-6 and ω-9, which..." This sentence is incorrect. The authors don't indicate any polyunsaturated fatty acid omega-9. They indicate a monounsaturated fatty acid ω-9. So they must write ""and unsaturated fatty acids ω-3, ω-6 and ω-9, which..." 16-	
Minor REVISION comments	English language must be improved. Title: Nutrients and Relevant Constituents to Antioxidant, Antimicrobial and Antibreast Cancer Properties of <i>Salvia officinalis</i> L Running Title: Relevant Constituents to Sage Properties Keywords: Sage leaves; Salvia officinalis; HPLC; Antioxidant; Antimicrobial; cytotoxic; MDA-MB-231 cell line Line 15 and line 304: Sage is considered a good source... Line 17: I don't understand the sentence "It interpreted its high antioxidant powers." Maybe because of poor English. Line 213: 300μg/mL instead 300μg. The latin botanical name must be in italic, including in the final reference list, in paper titles.	
Optional/General comments		Authors would like to express their gratitude for your effort in revising this manuscript and would like to thank you for valuable comments that would help to represent this scientific work in the best form it could be. Many thanks.