Author’s response to reviews

Title: alpha-Glucosidase inhibition, antioxidant and antibacterial activities of two medicinal plants used in Benin as folk medicine

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Version: 5 Date: 4 February 2013

Author’s response to reviews: see over
Dear Sir,

Please find enclosed our revised manuscript entitled “In vitro biological effects of two anti-diabetic medicinal plants used in Benin as folk medicine” (MS#5584820447725059) for publication as a full length article. As recommended, the authors took into consideration all the comments from the reviewer 3 (see below).

Hoping that our manuscript will be published in your scientific journal,

Yours Sincerely,

E. Debiton
Reviewer’s report

Title: alpha-Glucosidase inhibition, antioxidant and antibacterial activities of two medicinal plants used in Benin as folk medicine

Version: 3 Date: 19 December 2012

Reviewer: Adel Al-Zubairi  

Reviewer’s report:

The manuscript was improved
There are few points remaining and must be adhered by the authors

Major Compulsory Revisions:

Discussion:

Paragraph 2:
- Among glucose-lowering medications, #-glucosidase inhibitors delay the absorption of ingested carbohydrates
  - Change to “Among glucose-lowering medications, #-glucosidase inhibitors which delay the absorption of ingested carbohydrates...”
  This line has been changed as the reviewer indicates.

- However, the reversible nature of the inhibitor-enzyme interactions, the conversion of oligosaccharides to monosaccharides is only delayed rather than completely blocked.
  - Change to “However, the conversion of oligosaccharides to monosaccharides is only delayed rather than completely blocked due to the reversible nature of the inhibitor-enzyme interactions.”
  This line has been changed as the reviewer indicates.

- New paragraph should start from this sentence “In our study acarbose was used as the positive control; it inhibited the #-glucosidase activity with an IC50 value estimated at 765 µg/ml while the IC50 values of the extracts ranged from 1.5 to 5µg/ml.”
  This change was made as the reviewer indicates.

- Only a few articles had discussed acarbose effect in detail [22 - 23 - 24 - 25]. In those studies acarbose was found to exert little inhibition on #-glucosidase activity”
  - Mention the IC50 of the acarbose from these studies and compare with your finding.

The range of the IC50 of acarbose in these publications was indicated between brackets “(IC50 ≥ 1000 µg/ml in each case)”

- Correct this sentence “Excepted the antiradical activity of essential oils from P. kotschyi root barks, no previous work on antioxidant activity of alcohol- or water-soluble extract of both plants could be found [32]”
  This sentence has been changed as the reviewer asks:
“Excepted the antiradical activity of essential oils from *P. kotschyi* root barks, no work on antioxidant activity of alcohol- or water-soluble extracts of both plants was previously described [32]”

-In paragraph no 6 the sentence “Our results suggest a moderate effect on Gram-positive bacteria. They are generally more sensitive to the extracts than Gram-negative ones.”

-Change to “Our results suggest a moderate effect on Gram-positive bacteria, while Gram-negative bacteria was found to be less sensitive to the extracts.”

This change was made as the reviewer indicates.

- Add names of the plants to this sentence “Regarding the absence of data on antibacterial properties

This change was made as the reviewer indicates.

“Regarding the absence of data on antibacterial properties of *P. Kotschyi* or *P. Senegalensis,*”

-Remove this sentence with the references citation “This was consistent with the previous studies on other spices and herbs [37,38].”

This change was made as the reviewer indicate.

- In last paragraph the sentence “Antibacterial substances can easily destroy the bacterial cell wall and cytoplasmic membrane which results in a leakage and a coagulation of the cytoplasm”

Change to “Antibacterial substances can easily destroy the bacterial cell wall and cytoplasmic membrane which results in leakage and coagulation of the cytoplasm”

This change was made as the reviewer indicates.

- Provide a comparative sentence between the two plant extracts regarding the AGI, antioxidants and antimicrobial activity.

A sentence was added to the conclusion part of the text:

“Both effects were slightly more pronounced in *P. Senegalensis* than in *P. kotshyi* and further investigations of the active natural compound(s) of these plants are in progress.”