Reviewer's report

Title: Evaluation of Abelmoschus moschatus extracts for antioxidant, free radical scavenging, antimicrobial and antiproliferative activities using in vitro assays

Version: 1  Date: 18 May 2011

Reviewer: Dario Kremer

Reviewer's report:

Comments and recommendation to MS:

Mir Zahoor Gul, L. Md. Bhakshu, Farhan Ahmad, A. K. Kondapi and Irfan A. Ghazi: "Evaluation of Abelmoschus moschatus extracts for antioxidant, free radical scavenging, antimicrobial and antiproliferative activities using in vitro assays".

General comments:
The article presents an evaluation of Abelmoschus moschatus Medik. extracts for antioxidant, free radical scavenging, antimicrobial and antiproliferative activities. A. moschatus is famous plant which is used in traditional medicine and in preparation of cosmetics. In general, article is well done and it is worth to be published in BMC Complementary and Alternative Medicine. But, some things should be done to improve article before publishing.

Major Compulsary Revisions

Results
Antimicrobial activity

Page 13, paragraph 1, line 6-7: Please, explain what mean GAE in this subsection. The MIC should be expressed in #g/ml of extracts.

Table 3
MIC of inhibition of kanamycin, ampicillin and ethanol is missing.

MIC should be expressed in #g/mL

Minor Essential Revisions

General comments:

Please, make space between number and SI unit abbreviation, for example (page 6, section Determination of total Flavonoids, line 3) '60 #l' instead of '60#l'
Specific comments:

Abstract:

Background:
Page 2, line 1: Please, change ‘Abelmoschus moschatus (L.) Medic’ into ‘Abelmoschus moschatus Medik.’

Page 2, line 1: Please, omit ‘roots’

Methods:
Page 2, line 4: Please, change ‘Abelmoschus moschatus’ into ‘A. moschatus’
Page 2, line 4: Please, change ‘Six’ into ‘six’
Page 2, line 7-8: Please, give the bacterial names.

Background:
Page 3, paragraph 2, line 14: Please, change ‘A. moschatus’ into ‘Abelmoschus moschatus Medik.’

Page 4, paragraph 2, line 3: Please, change ‘Abelmoschus moschatus (L.) Medic’ into ‘A. moschatus’
Page 4, paragraph 2, line 3: Please, add space before ‘family’

Materials
Chemicals
Page 4, paragraph 1, line 2: Please, omit ‘,’
Page 4, paragraph 1, line 3: Please, rephrase.

Bacterial cultures
Page 5, paragraph 1, line 1: Please, omit ‘viz.’
Page 5, paragraph 1, line 1-3: Please, omit brackets
Page 5, paragraph 1, line 3: Please, give the current name for Salmonella paratyphi and put presented name in bracket

Preparation of plant extracts
Page 5, paragraph 1, line 2: Please, give the quantity of drug into ‘….were prepared by soaking in 4 ml of…’
Page 5, paragraph 2, line 2: Please, give ‘(v/v)’ after ‘80%’

Determination of total Flavonoids
Page 6, paragraph 1, line 2: Please, change ‘Flavonoids’ into flavonoids’

Determination of total antioxidant activity

Page 6, paragraph 1, line 1: Please, add ‘seed and leaves’ before ‘extracts’

Determination of reducing power

Page 6, paragraph 1, line 4: Please, change letter ‘x’ with symbol ‘#’ in ‘at 1000 x g for 10 mins’

Page 6, paragraph 1, line 8: Please, omit space between 0.1. and % (like in other parts of text)

Superoxide radical scavenging

Page 7, paragraph 1, line 4: Please, change ‘…(Nicotinamide adenine dinucleotide) NADH…’ into ‘…Nicotinamide adenine dinucleotide (NADH)…’ (like in other parts of text)

Page 7, paragraph 1, line 5: Please, change ‘…(phenazine methosulfate) PMS solution…’ into ‘…phenazine methosulfate (PMS) solution…’ (like in other parts of text)

Inhibition of Fenton’s reagent-induced strand breaks in plasmid DNA

Page 8, paragraph 1, line 2: Please, add space before [28]

Anti proliferative assay

Page 9, paragraph 1, line 9: Please, change letter ‘x’ with symbol ‘#’ in ‘at 1000 x g for 10 mins’

Page 9, paragraph 1, line 14: Please, change ‘ELISA’ into ‘Elisa’ (like in subsection Antimicrobial activity)

Page 9, paragraph 1, line 14: Please, change ‘Ifosfamide’ with symbol ‘ifosfamide’

Antimicrobial activity

Page 9, paragraph 1, line 4: Please, check the No. of protocol of National Committee for Clinical laboratory Standard [32]

Page 9, paragraph 1, line 5: Please, change ‘+ve’ into ‘positive’

Page 9, paragraph 1, line 5: Please, change ‘-ve’ into ‘negative’

Page 9, paragraph 1, line 5: Please, change ‘fungus’ into ‘fungal’
Page 9, paragraph 1, line 5: Please, add bacterial name in brackets
Page 9, paragraph 1, line 13: Please, omit 'viz,'
Page 9, paragraph 1, line 15: Please, change ‘No inoculums’ with ‘no inoculums’

Calculations and Statistical analysis:
Page 10, paragraph 1, line 1: Please, omit ‘antimicrobial’

Results
Total phenolic and flavonoid content
Page 10, paragraph 1, line 2: Please, change ‘table 1’ into ‘Table 1’
Page 10, paragraph 1, line 5: Please, omit space in ‘AMS- IV’

Total antioxidant activity (TAA) and Reducing power (RP)
Page 10, paragraph 1, line 2: Please, change '08.08' into '8.08'
Page 11, paragraph 1, line 4: Please, change '13.32' into '13.30' (see Table 1)
Page 11, paragraph 1, line 4-6: Please, connect these two sentences ‘The activity was in the range of 13.32-21.52 mg AAE/g dw. The AML-IV showed highest activity with value of 21.5 mg/g ascorbic acid equivalents where as AMS-I showed less activity 13.3 mg AAE/g dw (Table 1).’ in one
Page 11, paragraph 2, line 6: Please, omit space before and after hyphen in ‘3.02 - 6.28’ (like in other similar cases in text)
Page 11, paragraph 2, line 6: Please, explain abbreviation and put ‘FRAP’ in brackets (like in other similar cases in text)
Page 11, paragraph 2, line 6: Please, omit space before hyphen in ‘0.38 -0.54’ (like in other similar cases in text)
Page 11, paragraph 2, line 8: Please, change ‘higher’ into ‘highest’

DPPH radical scavenging activity
Page 11, paragraph 1–2: These two paragraphs should be shortened. Please, don’t repeat all results from Table 2

Hydrogen peroxide radical scavenging assay
Title of subsection: Please, use the same title in section Materials

Superoxide radical scavenging activity
Title of subsection: Please, use the same title in section Materials
Hydroxyl radical scavenging

Title of subsection: Please, use the same title in section Materials

Page 12, paragraph 1, line 2: Please, explain abbreviation of EDTA (like in similar cases in text)

Page 12, paragraph 1, line 6-13: Please, don't repeat all results from Table 2

Anti-Lipid peroxidation assay

Title of subsection: Please, use the same title in section Materials

Page 13, paragraph 1, line 5: Please, change '5b' into '6b'

Antimicrobial activity

Page 13, paragraph 1, line 1-2: Please, rephrase the sentence 'The extracts of A. moschatus'

Discussion:

Section title: please, omit ‘:’

Page 14, paragraph 3, line 3: Please, explain what ‘TAA’ mean here?

Page 15, paragraph 1, line 5: Please, change ‘table’ into ‘Table’

Page 15, paragraph 2, line 4: Please, don’t use abbreviation ‘AM’ instead of full name

Page 15, paragraph 3, line 6: Please, don’t use abbreviation ‘AM’ instead of full name

Page 16, paragraph 1, line 5: Please, omit ‘.’ after ‘antioxidants’

Page 16, paragraph 2, line 4-5: Please, don’t use abbreviation ‘AM’ instead of full name

Page 16, paragraph 2, line 5: Please, change ‘…extracts (both leaf and seed extracts) exhibited…’ into ‘…both leaf and seed extracts exhibited…’

Page 16, paragraph 2, line 7: Please, add ‘(Table 2)’ after ‘reaction system’

Page 16, paragraph 2, line 8: Please, omit sentence ‘The IC50 values were presented in Table 2.’

Page 16, paragraph 3, line 6: Please, change font in ‘effects’

Page 17, paragraph 2, line 6: Please, rephrase ‘…extracts have shown potent antioxidant activity most potent….’
Please, put hyphen after 'COLO' in term 'COLO 205'

Please, change ‘….extracts AMS-IV and AMS-IV….’ into ‘….extracts AMS-IV and AML-IV….’

Please, change ‘table’ into ‘Table’

Table 1:

Title: Please, add ‘Total’ before ‘Polyphenol….’

Column 5: Please, add ‘Ferric’ of change with ‘FRAP’

Column 2 and 4: Please, change ‘03.74’ into ‘3.74’…… (omit 0)

Please, change 'X ± SEM' into 'mean ± SEM' or use adequate symbol onstead of 'X'

Table 3:

Title: Please, add ‘in #g/ml’ after ‘(MIC)’

Column 1: Please, omit brackets, that is change ‘Bacillus subtilis (ATCC 5740)’ into ‘Bacillus subtilis ATCC 5740’

Column 1: Please, change italic in normal ‘Candida albicans (ATCC 10231)’ into ‘Candida albicans ATCC 10231’

Figure 1a, 1b, 2, 3, 4a, 4b, 6a, 6b

Please, add hyphen in ‘AMSI….’ (like in text)

Please, add ‘#g/ml’ after ‘Concentration’

Figure 7a

Please, add hyphen in ‘COLO 25’ (like in text)

Figure 7b

Please, omit space in ‘Y 79’ (like in text)

References

Ref. no. 8: Please, put some parts in bold.

Ref. no. 11: Please, start with small letter words ‘Antimicrobail’ and ‘Phytochemical’ (like in other references)

Ref. no. 12: ‘J’ should not be in bold
Ref. no. 13: Please, change ‘china’ into ‘China’
Ref. no. 28: Please, change ‘Opuntia ficus-indica var. Saboten’ into ‘Opuntia ficus-indica var. Saboten’ into ‘var. saboten’
Ref. no. 30: Please, change 'Immunopharmacol' into 'Imunopharmacol'
Ref. no. 34: Please, add space in ‘G:Gut’
Ref. no. 44: Please, omit ‘(8)’
Ref. no. 49: Please, put part in bold
Ref. no. 53: Please, put part in bold
Ref. no. 54: Please, give volume
Ref. no. 56: Please, put part in bold and add dot after ‘extract’

Discretionary Revisions
Please, think to change ‘hrs’ into ‘hours’ or ‘h’
Please, think to change ‘mins’ into ‘minutes’ or ‘min’
Please, think to change ‘ml’ into ‘mL’

Abstract:
Background:
Page 2, Line 5: Please, think to change ‘for its antioxidant and other biological potentials’ with ‘for its antioxidant, free radical scavenging, antimicrobial and antiproliferative activities’

Background:
Page 4, paragraph 2, line 5: Think to add which part of plant is used.

Results
Table 2:
Please, change the order of row (Hydroxyl radical and Super oxide radical) to be like in text

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being
published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.