

# Response to Article “Antipyretic Potential of 80% Methanol Extract and Solvent Fractions of *Bersama abyssinica* Fresen. (Melianthaceae) Leaves Against Yeast-Induced Pyrexia in Mice” [Response to Letter]

Bantayehu Addis Tegegne<sup>1</sup>, Agumas Alemu Alehegn<sup>2</sup>

<sup>1</sup>Department of Pharmacy, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia; <sup>2</sup>Department of Pharmacy, Amhara Public Health Institute, Bahir Dar, Ethiopia

Correspondence: Bantayehu Addis Tegegne, Department of Pharmacy, College of Health Sciences, Debre Markos University, Debre Markos, Ethiopia, Tel +251913326285, Email bantayehuaddis.90@gmail.com

## Dear editor

We have read the letter of Putri Reno Intan, Ariyani Noviantari, and Sukmayati Alegantina from West Java, Indonesia. They have written in response to our recent publication entitled “Antipyretic potential of 80% methanol extract and solvent fractions of *Bersama abyssinica* Fresen. (Melianthaceae) leaves against yeast-induced pyrexia in mice” in *Journal of Experimental Pharmacology* from two authors.<sup>1</sup>

We want to start by thanking the authors for their interest in and insightful comments on our article.

The first issue brought up by the authors is the differences in the time interval on the rectal temperature measurements between our paper and those of other authors. We chose to follow the protocols outlined by several scholars even though there was a lack of sufficient data on the best standard methodology to follow and inconsistent timing when the rectal temperature was recorded in experimentally produced fever.<sup>2–5</sup>

Moreover, longer reading times increase the likelihood that stress hyperthermia would “contaminate” the results of rectal body temperature measurements. Frequent sampling demonstrates how mice left unrestrained and undisturbed at a regular laboratory temperature can experience a sudden change in core temperature of 3–4 °C over around 30 minutes.<sup>5</sup> So, we aimed to measure rectal temperature at a time of 0.5, 1, 1.5, 2, 2.5, and 3 hours following treatment with crude extract and solvent fractions.

The second concern raised by the author was potentially hazardous contaminants and residues (physical, chemical, and biological pollutants) in herbal remedies. We agreed that preparing medicinal plants for experimentation is the first and most important stage in producing high-quality study results. We used the methodology used by outstanding researchers who have already experimented with herbal medicine for various diseases in mice models.

To this purpose, although inevitable contaminants or residues from herbal medicines might not entirely disappear, tremendous effort has been made to limit potentially dangerous contaminants and residues (physical, chemical, and biological pollutants) on herbal medication in our study. In the section below, we discussed some of the scientific extraction and fractionation procedures used in this work to reduce residues and potentially dangerous impurities to safe levels without negatively influencing the phytochemical ingredients.

First, the plant is collected from a noncontaminated environment. Dust and visible contaminants were removed physically during harvesting; During shipment, the plant material was wrapped in plastic sheets; Gently cleansed with tap water before extraction to remove dust and unwanted materials accumulated in the leaves; Milled to reduce the size and minimize microbial contaminants; Extraction and fractionation with methanol and ethanol remove microbial contaminants; Filtration was carried out to remove residues; Dried at a temperature of 40°C to obtain crude extract and minimize

viable microbial contaminants; freeze-drying, the extract was further concentrated using a lyophilizer and this also contributes to killing microbial contaminants; Preserved in a desiccator until it was utilized to avoid physical, chemical, and biological pollutants; The laboratory room and other device were washed/polished with disinfectant.<sup>1,6-9</sup>

After all, we will make an effort to take into account the recommendations made for upcoming works.

Finally, the authors would like to express their appreciation for the reader's input on our earlier work. We anticipate more constructive criticism for the improvement of our upcoming projects.

## Funding

The publication of this communication letter did not receive any funding.

## Disclosure

The authors have no potential conflicts of interest in this communication.

## References

1. Tegegne BA, Alehegn AA. Antipyretic potential of 80% methanol extract and solvent fractions of *Bersama abyssinica* Fresen. (melianthaceae) leaves against yeast-induced pyrexia in mice. *J Exp Pharmacol*. 2023;81–91. doi:10.2147/JEP.S390825
2. Yimer T, Emiru YK, Kifle ZD, Ewunetei A, Adugna M, Birru EM. Pharmacological evaluation of antipyretic and antioxidant activities of 80% methanol root extract and derived solvent fraction of *Echinops kebericho* M. (Asteraceae) in mice model. *Biomed Res Int*. 2021;2021:1–8. doi:10.1155/2021/6670984
3. Makonnen E, Debella A, Zerihun L, Abebe D, Teka F. Antipyretic properties of the aqueous and ethanol extracts of the leaves of *Ocimum suave* and *Ocimum lamiifolium* in mice. *J Ethnopharmacol*. 2003;88(1):85–91. doi:10.1016/S0378-8741(03)00175-2
4. Saini NK, Singhal M. Anti-inflammatory, the analgesic and antipyretic activity of methanolic *Tecomaria capensis* leaves extract. *Asian Pac J Trop Biomed*. 2012;2(11):870–874. doi:10.1016/s2221-1691(12)
5. Meyer CW, Ootsuka Y, Romanovsky AA. Body temperature measurements for metabolic phenotyping in mice. *Front Physiol*. 2017;8:520. doi:10.3389/fphys.2017.00520
6. World Health Organization. *WHO Guidelines for Assessing the Quality of Herbal Medicines Concerning Contaminants and Residues*. World Health Organization; 2007.
7. Kumadoh D, Archer MA, Kyene MO, et al. Approaches for the elimination of microbial contaminants from *lippia multiflora* mold. Leaves intended for tea bagging and evaluation of formulation. *Adv Pharmacol Pharm Sci*. 2022;2022:7235489. doi:10.1155/2022/7235489
8. Ahmad I, Aqil F, Ahmad F, Owais M. Herbal medicines: prospects and constraints. In: *Modern Phytomedicine*. Wiley Online Library; 2006:59–77.
9. Kosalec I, Cvek J, Tomic S. Contaminants of medicinal herbs and herbal products. *Arh Hig Rada Toksikol*. 2009;60(4):485. doi:10.2478/10004-1254-60-2009-2005

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Journal of Experimental Pharmacology 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Journal of Experimental Pharmacology editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Journal of Experimental Pharmacology

Dovepress

### Publish your work in this journal

The Journal of Experimental Pharmacology is an international, peer-reviewed, open access journal publishing original research, reports, reviews and commentaries on all areas of laboratory and experimental pharmacology. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/journal-of-experimental-pharmacology-journal>

<https://doi.org/10.2147/JEP.S414817>