

## Evaluation of Anti-typhoid Effects of *Azadirachta indica* L. Fractions

A Adetutu

Ladoke Akintola University of Technology, Nigeria.

### Abstract

The development of resistance to currently known conventional anti-typhoid drugs has necessitated search into cheap, more potent and less toxic anti-typhoid drugs of plant origin. Therefore, this study investigated the anti-typhoid activity of fractions of *A. indica* in *Salmonella typhi* infected rats. Leaves of *A. indica* were extracted in methanol and fractionated into n-hexane, chloroform, ethyl-acetate and aqueous fractions. The anti-salmonella potentials of fractions of *A. indica* were assessed via in-vitro inhibition of *S. typhi* using agar well diffusion, Minimum Inhibitory Concentration (MIC), Minimum Bactericidal Concentration (MBC) and biofilm assays. The biochemical and haematological parameters were determined by spectrophotometric methods. The histological analysis was performed using Haematoxylin and Eosin staining methods. Data analysis was performed by one-way ANOVA. Results of this study showed that *S. typhi* was sensitive to aqueous and chloroform fractions of *A. indica* and the fractions showed biofilm inhibition at concentrations of 12.50, 1.562 and 0.39 mg/mL. In the in-vivo study, the extract and chloroform fraction had significant ( $p < 0.05$ ) effects on the number of viable *S. typhi* recovered from the blood and stopped salmonellosis after 6 days of treatment of rats at 500 mg/kg b.w. Treatments of infected rats with chloroform and aqueous fractions of *A. indica* normalized the haematological parameters in the animals. Similarly, treatment with fractions of the plants sustained a normal antioxidant status when compared with the normal control group. Chloroform and ethyl-acetate fractions of *A. indica* reversed the liver and intestinal degeneration induced by *S. typhi* infection in rats. The present investigation indicated that the aqueous and chloroform fractions of *A. indica* showed the potential to provide an effective treatment for salmonellosis, including typhoid fever. The results of the study may justify the ethno-medicinal use of the extract in traditional medicine for the treatment of typhoid and salmonella infections.



### Biography:

Dr. A Adetutu is affiliated to Department of biochemistry, Ladoke Akintola University of Technology, where Dr. A Adetutu is currently working as Faculty. Dr. A Adetutu has authored and co-authored several national and international publications and also working as a reviewer for reputed professional journals. Dr. A Adetutu is having an active association with different societies and academies around the world. Dr. A Adetutu made his mark in the scientific community with the contributions and widely recognition from honourable subject experts around the world. Dr. A Adetutu has received several awards for the contributions to the scientific community. Dr. A Adetutu major research interest involves Antioxidant, Anticancer, Toxicology and Oncology.

### Speaker Publications:

1. Adetutu A, Odunola OA, Owoade OA, Adeleke OA, Amuda OS (2004) Anticlastogenic effects of *Hibiscus sabdariffa* fruits against sodium arsenite-induced micronuclei formation in erythrocytes in mouse bone marrow. *Phytother Res* 18:862-864.
2. AB Aborisade, A Adetutu, AO Owoade (2017) Phytochemical and proximate analysis of some medicinal leaves. *Clinical Medicine Research* 6 (6), 209.
3. A Adetutu, OS Olorunnisola, AO Owoade, P Adegbola (2016) Inhibition of in Vivo Growth of *Plasmodium berghei* by *Launaea taraxacifolia* and *Amaranthus viridis* in Mice. *Senra Acad Pub Brit Col* 7, 2357-62.

4. A Adetutu, OS Olorunnisola (2013) Hepatoprotective potential of some local Medicinal Plants against 2-Acetylaminoflourene-induced damage in rat. Journal of toxicology.
5. AO Owoade, AI Airaodion, A Adetutu, OD Akinyomi (2018) Levofloxacin-induced dyslipidemia in male albino rats. Asian Journal of Pharmacy and Pharmacology 4 (5), 620-629.

[7th International Conference and Exhibition on Natural Products and Medicinal Plants Research](#); Barcelona, Spain- July 22-23, 2020.

**Abstract Citation:**

A Adetutu, Evaluation of Anti-typhoid Effects of Azadirachta indica L. Fractions, Natural Products 2020, 7<sup>th</sup> International Conference and Exhibition on Natural Products and Medicinal Plants Research; Barcelona, Spain- July 22-23, 2020.

(<https://naturalproducts.pharmaceuticalconferences.com/abstract/2020/evaluation-of-anti-typhoid-effects-of-azadirachta-indica-l-fractions>)