

Venom Week VIII 2022

Abstract Guidelines and Example Template

Guidelines: For those Venom Week VIII presenters and poster authors who want their abstracts to be considered for publication in *Toxicon*, please follow the guidelines and due date. All abstracts will be peer reviewed, and those accepted will be published in *Toxicon*.

Due Date: February 1st, 2022

Instructions: Please refer to the example below as a guide for the abstract format.

Submissions: abstracts may be submitted to info@venomweek.org

Abstract Title should be in all capital font and bold type (20 words)

Authors and Affiliations – Provide author names and their affiliation

Corresponding or Senior Author's **email address**

Abstract Sections: abstract section headings must be in **bold type**, abstract body max 400

Background

Methods or Case Report

Results

Discussion/Conclusion

Key Words

Example

ANTIBACTERIAL ACTIVITY OF 24 DIFFERENT SNAKE VENOMS FROM THE FAMILIES VIPERIDAE AND ELAPIDAE

Sanchez, O.¹, Suntravat, M.¹, Sanchez, E.E.^{1,2}

¹National Natural Toxins Research Center, Texas A&M University-Kingsville, Kingsville, TX;

²Department of Chemistry, Texas A&M University-Kingsville, MSC 161, Kingsville, TX

E-mail address: elda.sanchez@tamuk.edu

Background: Bacterial infection is a leading cause of death worldwide. The gradual emergence of populations of antibiotic-resistant bacteria resulting from use, misuse and outright abuse of antibiotics has today become a major public health problem of global proportions. The development of new, potent, and less toxic agents from natural sources against various infectious agents is an urgent medical need. In the last decade, a wide range of diverse, novel classes of natural antibiotics has been isolated from different snake species.

Methods: The aims of this study were to investigate antimicrobial activity of 24 different snake venoms from families Viperidae and Elapidae against 6 different clinical bacteria strains including *Staphylococcus aureus*, *Enterococcus faecalis* (Gram-positive bacteria) and *Escherichia coli*, *Salmonella enterica*, *Pseudomonas aeruginosa*, and *Klebsiella oxytoca* (Gram-negative bacteria) using the disc diffusion method.

Results: Several snake venoms showed activity against three to four different pathogenic bacteria. The most susceptible bacterium was *S. aureus*. *Bothrops moojeni* and *Crotalus durissus terrificus* venoms exhibited the most potent activity against *S. aureus*.

Discussion/Conclusion: *In vitro* screening provides convincing evidence that several venoms have promising antibacterial effects against gram-positive and gram-negative bacteria. The present findings indicate that viperid venoms have significant antibacterial effects, which may be the result of the primary antibacterial components such as L-amino acid oxidases and PLA₂ enzymes. The results will be useful for further purification and characterization of antibacterial agents from snake venoms.

Key Words: Multi-Drug resistant bacteria, Elapidae, Viperidea, anti-bacterial peptides, gram-positive and gram-negative bacteria, susceptibility, disc-diffusion method.