Content available at: https://www.ipinnovative.com/open-access-journals

Current Trends in Pharmacy and Pharmaceutical Chemistry

Journal homepage: https://www.ctppc.org/

Original Research Article

Antimicrobial activity of compound VG1: Part-II

Deepali Gaikwad-Ingawale[1], Amit G. Nerkar[1]*, Vijay Gaikwad[1]

[1] *Dept. of Pharmacy, CAYMET's Siddhant College of Pharmacy, Pune, Maharashtra, India*

ARTICLE INFO

Article history:
Received 19-04-2024
Accepted 01-05-2024
Available online 11-05-2024

Keywords:
Antimicrobial Activity
Microbial Load
Screening
Synthesis
In vitro

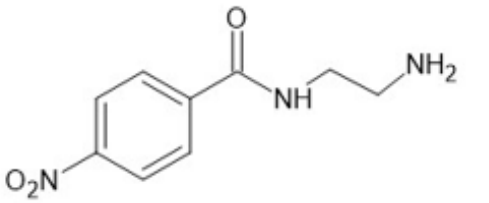
ABSTRACT

In earlier paper, the synthesis of *VG1* (benzamide derivative) was reported. The antimicrobial activity of *VG1* has been reported in part-II in continuation of part-I synthesis of the VG1. The compound was evaluated at single dose of 20nmoles in the antimicrobial screening. The mixture of microbial culture was evaluated against the *VG1*. The process involved standard, vehicle and control. The standard being Brand X disinfectant, control being Water and vehicle being ethanol. Test being the compound VG1 dissolved in ethanol, 20nmoles in strength and being evaluated.

1. Introduction

Antimicrobial Agent[1] is defined as agent that prevents the growth or propagation of bacteria or microorganisms including viable spores on inanimate objects.

Synthesis was performed for compounds VG1 and VG2 which are chemically 4-nitro-benazmides. VG1 compound is shown in the figure below which is chemically N-(2-aminoethyl)-4-nitrobenzamide. The compounds were confirmed by TLC, FT-IR and[1]H-NMR.



N-(2-aminoethyl)-4-nitrobenzamide

VG1

The spectral data and synthesis procedures of VG1 and VG2 had been reported in Part-I of this paper.[2]

We here report the antimicrobial activity of the compound VG1 conducted in our laboratories.

* *Corresponding author*.
E-mail address: dragnerkar@gmail.com (A. G. Nerkar).

https://doi.org/10.18231/j.ctppc.2024.015

2. Materials and Methods

2.1. Compound VG1

This is chemically N-(2-aminoethyl)-4-nitrobenzamide and has been synthesized by known literature procedure and published in Part-I of this paper.[2]

3. Antimicrobial Activity/Screening

Test Solution: 20 nano molar of compound VG1 was dissolved in 3.0 grams of ethanol and stored.

3.1. Microbial culture

Culture Growth Medium was inoculated with soil water and incubated for the growth of the bacterial load for 72 hrs. Rather than isolating a pure strain of bacteria, microbial culture load was used and inoculated further to give subculture. Further, this culture was used for antimicrobial screening for further testing of VG1. The process involved standard, vehicle and control. The standard being Brand X disinfectant, control being Water and vehicle being ethanol. Test being the compound VG1 dissolved in ethanol, 20nmoles in strength and being evaluated. Zone of inhibition was measured in centimetres.

Table 1: Showing bacterial Load in various evaluation components detected by PCR.

Material	Microbial Load ZOI (cm)
Water	0.0
Vehicle	0.1
X	0.2
VG1	0.5

4. Results and Discussion

As perTable 1, the compound VG1 showed antimicrobial properties as compared to the standard branded antimicrobial (X) and Vehicle used in the test.

5. Conclusion

Thus, VG1 has significant insignificant antimicrobial property as compared to the standard antimicrobial used in the test branded antimicrobial X.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Balouiri M, Sadiki M, Ibnsouda SK. Methods for in vitro evaluating antimicrobial activity: A review. *J Pharm Anal*. 2016;6(2):71–80.
2. Gaikwad V. Synthesis of 4-nitro-benzamides for evaluation antimicrobial and disinfectant activity: Part-I. *Curr Trends Pharm Pharm Chem*. 2024;6(1):28–9.

Author biography

Deepali Gaikwad-Ingawale, Assistant Professor in Microbiology

Amit G. Nerkar, Professor and Research Head

Vijay Gaikwad, Student

Cite this article: Gaikwad-Ingawale D, Nerkar AG, Gaikwad V. Antimicrobial activity of compound VG1: Part-II. *Curr Trends Pharm Pharm Chem* 2024;6(2):56-57.