



## 6(3,5-SUBSTITUTED-2-BROMO PHENYL) 1,2,4-TRIAZINE DERIVATIVES AS ANTIMICROBIAL AND ANTICANCER AGENTS

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### ABSTRACT

6-(2-Amino-3,5-substituted phenyl)-1,2,4-triazines were prepared by refluxing semicarbazones or thiosemicarbazones in presence of basic medium. 6(3,5-Substituted-2-bromophenyl)1,2,4-triazine derivatives were prepared from 6-(2-amino-3,5-substituted phenyl)-1,2,4-triazine derivatives by using sodium nitrite, hydrobromic acid and  $\text{Cu}_2\text{Br}_2$ . The structures of compounds were confirmed by FT-IR and  $^1\text{H-NMR}$  spectral data. Compounds were screened for antimicrobial activity against four bacterial strains (*Escherichia coli*, *Bacillus pumilus*, *Klebsiella pneumonia* and *Staphylococcus aureus*) and two fungal strains (*Aspergillus niger* and *Candida albicans*) by using agar well diffusion test. Some compounds showed good antimicrobial activity.

The *in vitro* anticancer activity of compounds was also performed by NCI 60 Cell screen at a single high dose ( $10^{-5}$  M) on various panel/cell lines. In this series, some compounds showed maximum antibacterial and antifungal activities, respectively. One compound was found to be significant active against UO-31, renal cancer cell line with 38.62 % growth inhibition.

**KEYWORDS:** Antimicrobial activity, anticancer activity, percentage growth inhibition, 1,2,4-triazine derivatives.

### INTRODUCTION

Over the past two decades, microbial diseases are a most important source of morbidity and frequently as suppressor of immune power. Microbes are responsible for many poisonous syndromes and common epidemics in human civilizations. In recent pasts, microbial diseases