

## Abstract

# Bioactive Potential of *Hibiscus rosa sinensis* and *Jasminum sambac* Extracts against Food Borne Pathogens <sup>†</sup>

Laiba Rasheed <sup>1</sup>, Rabia Tanvir <sup>1,\*</sup> , Fatima Ahsan <sup>1</sup>  and Wasim Shehzad <sup>2</sup><sup>1</sup> Institute of Microbiology (IOM), University of Veterinary and Animals Sciences (UVAS), Lahore 54000, Punjab, Pakistan<sup>2</sup> Institute of Biochemistry and Biotechnology (IBBT), University of Veterinary and Animal Sciences (UVAS), Lahore 54000, Punjab, Pakistan

\* Correspondence: rabiatanvir@hotmail.com

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**Abstract:** Foodborne diseases (FBD) are a serious issue that affects not only human health but also has an impact on the global economy. They remain a persistent problem due to the continuing changes in global food trade trends, dietary patterns, food manufacturing, and the emergence of foodborne microbes in the food chain. In Pakistan, where meat is considered an essential component of our meals, due to its high nutrient concentration levels, high water activity, minerals and vitamins, and other growth factors such as pH, microbes thrive in it. The extensive use of antibiotics has resulted in antimicrobial resistant (AMR) bacteria in *E. coli*, *Salmonella*, *Campylobacter*, and *Listeria* spp. Traditional medicinal practices, especially the use of plant extracts, continue to play a crucial role in addressing basic healthcare needs in underdeveloped countries. The purpose of our study was to check the antibacterial potential of *Jasminum sambac* (jasmine) and *Hibiscus rosa sinensis* (China rose) extracts against foodborne pathogens, i.e., *E. coli*, *Salmonella*, and *Campylobacter*. The hot and cold extracts were prepared using ethanol and distilled water, and the antibacterial activity was observed by the agar well diffusion method. The minimum inhibitory concentration (MIC) was also carried out on the plant extracts, which gave MIC values of 6 and 12 µg/mL for *E. coli* and *Salmonella*, respectively. The minimum bactericidal concentration (MBC) showed that ethanol extracts of both plants possessed bactericidal activity. Our study indicates that the native plants of Pakistan have significant bioactivity against foodborne pathogens.

**Keywords:** foodborne pathogens; *Hibiscus rosa sinensis*; *Jasminum sambac*

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