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DETERMINING THE ANTIMICROBIAL ACTIVITIES OF DIFFERENT- ORIGIN GINGER EXTRACTS

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Abstract:

Ginger (*Zingiber officinale*), originally from Asia, is now cultivated worldwide. For over 2500 years, it has been used in ethnobotany for its therapeutic benefits, including pain relief, diarrhea prevention, and aiding digestion. Antimicrobial tests have demonstrated that ginger exhibits both antibacterial and antifungal effects, leading to the development of numerous patented ginger extracts. However, the impact of ginger's geographical origin on its biological properties has not been sufficiently studied, and comparisons of ginger from different regions have generally been overlooked. This study aims to address this gap by comparing the antimicrobial properties of ethanol extracts from ginger obtained from India, China, and Turkey using the disk diffusion method. Significant differences were observed among the ginger samples from the three countries in terms of the variety of microorganisms they affected and the level of antimicrobial activity they demonstrated. The ginger extract from India produced inhibition zones of up to 19 mm against *Staphylococcus haemolyticus*, while the ginger extract from Turkey showed inhibition zones of up to 17 mm against multidrug-resistant *Achromobacter* sp., surpassing the control antibiotics. Additionally, the ginger extract from Turkey exhibited notable antimicrobial activity against 13 different microorganisms, demonstrating a broad spectrum of effect. This suggests that ginger grown in Turkey warrants further investigation as a potential natural antimicrobial agent in the fields of health and medicine.

Keywords: *Zingiber officinale*, Antimicrobial Activity, Disk Diffusion Method

**This study is supported by TUBITAK 2209*