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Extraction, Identification and antimicrobial efficiency of lycopene from Tomato (*solanum lycopersicum*) **and Red Guava** (*Psidium Guajava*)

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Abstract

Lycopene, a plant carotenoid naturally synthesized by fruits and vegetables like tomatoes, watermelon, papaya, red guava, carrot and grapefruit. The diet of carotenoids reduced the risk of degenerative diseases such as prostate, bladder, cervix, breast and digestive tract cancer. Thus, the present study was to extract lycopene from two selected fruits such as tomato and pink guava by using methanol and CCl₄ as solvent. Our aim was to investigate antimicrobial efficiency of lycopene extracted from Tomato and Red guava against food born pathogens such as Escherichia coli, Pseudomonas, Salmonella, Klebsiella and Bacillus using agar well diffusion method. Out of these, Antimicrobial activity of lycopene extracted from Red guava shows highest zone of inhibition as compared to lycopene extracted from tomato. The results of the present study indicate that Red guava extracts possess compounds containing antimicrobial properties that can potentially be useful to control food borne pathogens and Identification of lycopene and its morphological study was done by chemical test and microscopic study.

Keywords: Lycopene, Tomato (*Solanum lycopersicum*), Red guava (*Psidium guajava*), Methanol-CCl₄, Antimicrobial activity.

Introduction

Lycopene is a carotenoid responsible for the red pigment in many fruits and vegetables. There are more than 600 naturally occurring carotenoids, of this lycopene is the largest and most abundant [1]. Lycopene is found in blood, the reproductive