

# PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF POLYPHENOLS EXTRACT FROM *POLYGONUM MULTIFLORUM* THUNB. ROOT

Le Pham Tan Quoc<sup>1,\*</sup>, Nguyen Van Muoi<sup>2</sup>

## ABSTRACT

The purpose of this research is to investigate the presence of alkaloids, saponins, flavonoids, anthraquinones and tannins compounds as the possible agent responsible for the medicinal activities, the antioxidant activities and antimicrobial activities from *Polygonum multiflorum* Thunb. root. The powdered root was analyzed positively for alkaloids, saponins, flavonoids, anthraquinones and tannins. In addition, they are also related to an antimicrobial activity and the presence of these constituents was helpful to apply in medical and food industry. The determination of antimicrobial activity of *Polygonum multiflorum* Thunb. root extracts against gram-negative *Escherichia coli* (ATCC 25922), *Salmonella enteritidis* (ATCC 13076), gram-positive: *Staphylococcus aureus* (ATCC 25923), *Bacillus subtilis* (ATCC 11774), *Listeria monocytogenes* (CIP 74908), fungi: *Fusarium equiseti*, *Aspergillus niger* and *Trichoderma asperellum* were investigated by the paper disc diffusion method for antibiotic susceptibility testing and minimum inhibitory concentration (MIC) evaluation of dryness extract. The results showed that the dryness extract can inhibit one gram-positive bacteria (*Staphylococcus aureus*, MIC = 200 mg/mL), one gram-negative bacteria (*Salmonella enteritidis*, MIC = 400 mg/mL) and one fungus (*Trichoderma asperellum*, MIC = 100 mg/mL); it's not take effectively on *Escherichia coli*, *Bacillus subtilis*, *Listeria monocytogenes*, *Fusarium equiseti* and *Aspergillus niger*.