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### *Lysiphyllum strychnifolia* (Craib) A. Schmitz extract, a novel neuraminidase inhibitor of avian influenza virus subtype H5N1

The leaves and stems of *Lysiphyllum strychnifolium* (Craib) A. Schmitz (Fabaceae family) have been traditionally used in Thailand for detoxification and to treat pesticide poisoning in humans. To uncover novel uses of *L. strychnifolium*, the possible antiviral properties against avian influenza virus A, strain H5N1, were explored in this study. The ethanolic extracts of *L. strychnifolium* leaves and stems showed good inhibitory activities against H5N1 which have never been previously reported of this plant, while the inhibition derived from aqueous extracts was not observed. Thereafter, the anti-neuraminidase activities of ethanolic extracts were evaluated using fluorometric determination via a MUNANA-based enzyme inhibition assay. Both stems and leaves ethanolic extracts showed good inhibitory activities against neuraminidase of Influenza A H5N1 with IC<sub>50</sub> value of 55.30 and 70.00 µg/mL, respectively. Moreover, anti-bacterial activities of aqueous and ethanolic extracts of *L. strychnifolium* leaves and stems were tested using the disc diffusion method. All extracts showed broad antibacterial activities against both Gram positive and Gram negative bacterial strains. Phytochemical constituents of all extracts were identified through Gas Chromatography-Mass Spectrometry (GC-MS) and revealed some compounds such as Methyl-p-hydroxybenzoate; Mome inositol; n-Hexadecanoic acid; Tetradecanamide; (Z)-9-Octadecanamide; 1,2,3,- Benzenetriol; Methylparaben; 4-(4-Hydroxyphenyl)-2-butanone; n-Hexadecanoic acid; Ethyl hexadecanoate; Phytol; (Z)-9-Octadecanoic acid and Octadecanoic acid. This is the first report of neuraminidase inhibitor against Influenza A H5N1 and antibacterial activities derived from *L. strychnifolium* extracts. It could be suggested that this plant is an alternative source for treatment of influenza viruses and antibiotic agent.

### Biography

Sophida Sukprasert has completed her PhD in field of Biochemistry from Khon Kaen University, Thailand. Presently she is a Lecturer and Researcher at Division of Integrative Medicine, Chulabhorn International College of Medicine, Thammasat University since 2013. She is interested in the herbal medicines which possess antidote and anti-diabetic properties.

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