



Marine Phytochemical and Thin Layer Chromatography Analyses of Whole Body of *Asterias rubens* Linnaeus (Starfish) Originated in Cambodia

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Abstract

Asterias rubens Linnaeus (English name: Starfish) (Khmer name: Pkai Samot) native to Cambodia has the ability to treat human inflammatory condition such as pain, arthritis, and hay fever. Moreover, it has antibacterial and antiviral activities against human bacterial pathogens including virus. This study aimed to determine the phytochemicals and Thin Layer Chromatography (TLC) profile of the whole body of *Asterias rubens* Linnaeus originated in Cambodia. The dried form of *Asterias rubens* Linnaeus whole body was collected from the local medicinal plant drugstore, Phnom Penh, Cambodia, in February 2018. The marine body was authenticated with the voucher specimens (UPFOPMP-120002) of University of Puthisastra (UP)-Herbarium. The body was ground and subjected to the extraction with ethanol by using Maceration Extraction (ME) method. The ethanolic extracts were in turn subjected to the analyses of phytochemical constituents and TLC. These experiments were conducted at Faculty of Pharmacy, University of Puthisastra, Cambodia. The ethanolic extract of *Asterias rubens* Linnaeus whole body was positively tested of alkaloids, saponins and resins. The TLC analysis was evaluated with the mobile phase system of Toluene:Ethanol (9:1) and investigated under 254-366 nm UV light and H₂SO₄, separating 14 compounds as the following R_f values 0.09, 0.11, 0.13, 0.16, 0.18, 0.20, 0.22, 0.24, 0.29, 0.31, 0.35, 0.44, 0.78 and 0.89. It is concluded that the presence of these phytochemicals and the TLC profiling of *Asterias rubens* Linnaeus whole body may be responsible for the marine medicinal purpose and of benefit for the future research in term of bioactive compound identification and isolation.

Keywords: *Asterias rubens* Linnaeus, TLC, Marine Phytochemicals, Cambodia

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