

**CHEMICAL CHARACTERIZATION AND APPLICATION OF
CATECHIN FROM *UNCARIA GAMBIR* EXTRACTS AS
NATURAL ANTI INFLAMMATORY AGENT IN
SPORTS INJURY**

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ABSTRACT

CHEMICAL CHARACTERIZATION AND APPLICATION OF CATECHIN FROM *UNCARIA GAMBIR* EXTRACTS AS NATURAL ANTI INFLAMMATORY AGENT IN SPORTS INJURY

Uncaria Gambir, a well-known Gambir Sarawak has been widely used for burn treatment, headaches, diarrhea dysentery, gargles and canker skin. Preliminary phytochemical screening revealed that the extract of *Uncaria Gambir* possesses alkaloid, saponin, flavonoids and phenol. Characterization analysis using Fourier Transform Attenuated Total Reflectance (FT-ATR) spectrometer model spectrum 100 Perkin Elmer has confirmed that the major chemical constituents of *Uncaria Gambir* are mainly catechin. The FTIR spectra showed that the major peak observed was at 3337.30 cm^{-1} , 1635.24 cm^{-1} and 1032.59 cm^{-1} which indicate the OH group, stretching of C=C and CO stretch respectively. The effect of anti-inflammatory of catechin was tested on six injured athletes from the pencak silat sports athletes from Faculty of Sports Science and Recreation of UiTM Negeri Sembilan Branch, Seremban Campus by applying two different concentrations of catechin, liquid spray of catechin A (LSCA) and liquid spray of catechin B (LSCB). There is a significant associative between concentration of catechin and the rate of healing process where LSCB gives a significance value as it can replace the conventional ethyl chloride spray as the muscle pain released. Therefore, the results obtained in the present study indicated that *Uncaria Gambir* extract could be potential source of a natural anti-inflammatory agent.