



**HISTOPROTECTIVE ACTIVITY OF *Cratoxylum sumatranum*  
(GUYONG-GUYONG) CRUDE LEAF EXTRACT ON SKIN-  
INDUCED TUMOR OF *Rattus norvegicus* (SPRAGUE-DAWLEY  
RATS)**

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### ABSTRACT

The study focused on the histoprotective activity of *Cratoxylum sumatranum* leaf crude extract on skin-induced tumor of *Rattus norvegicus*. It aimed to determine which crude extract concentration had the highest potential in protecting cancer proliferation. The crude extract of *C.sumatranum* was obtained using rotary evaporator and prepared to three different concentrations: 50%, 75% and 100%. The chemotherapeutic drug 5-fluorouracil is used as the positive control. The induction of tumor on *R.norvegicus* was done through topical exposure of a single 10 µg/mouse dose of DMBA (7, 12 - Dimethylbenz (a) anthracene) in 0.1 ml of acetone as tumor initiator and 2 µg/mouse dose of 12-O-tetradecanoylphorbol 13-acetate (TPA) in 0.1 ml acetone/mouse/application given after a week to promote carcinogenesis. Administration of treatment is done topically within the period of eight weeks and 30 minutes prior to TPA application. After the duration of the experiment for eight weeks, histopathological analysis was conducted and characteristics such as the presence of hyperkeratosis, acantholysis and sprinkling of kerato-hyaline granules are indicative of cancer proliferation. While presence of degenerative changes in the squamous cells- ballooning degeneration, pyknotic nuclei and shrunken cells were observe and suggestive of histoprotective activity. Results showed that all three crude extract concentrations were able to impede tumor proliferation. However 100% concentration elicited the highest inhibitory potential.

Key words: *Cratoxylum sumatranum*, 5-fluorouracil, DMBA, TPA, carcinogenesis



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