**Example**

**CYTOPROTECTIVE EFFECTS OF HONEY ALONE OR IN COMBINATION WITH AQUEOUS AND ETHANOL EXTRACTS FROM *CHROMOLAENA ODORATA L.* IN REDUCING GASTRIC LESIONS**

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Cytoprotective effects are important in keeping the integrity of gastric mucosa from strong irritants which may induce gastric ulcer. *Chromolaena odorata* plant extracts, honey and cimetidine were used to evaluate their cytoprotective effects against gastric lesions. Aqueous and ethanol extracts of the plant were evaluated to determine which extracts are better in protecting gastric mucosa. Sprague-Dawley rats, were either pre-treated via oral administration with honey alone, aqueous or ethanol extracts of *C. odorata*, or cimetidine for 30 minutes. Both plant extracts and cimetidine were administered in combination with honey. The rats were then fed with absolute ethanol combined with HCl, which served as irritants to induce gastric lesions. 30 minutes later, the rats were sacrificed and their stomachs were removed for further gross and histological examination to evaluate gastric lesions progression. The treatments groups were compared to ulcer control group, which were administered with absolute ethanol combined with HCl only. Data were expressed as ulcer index (mean ± S.E.M) and inhibition percentage. The results showed that absolute ethanol combined with HCL causes necrosis, hemorrhages and edema to the gastric mucosa. All treatments groups showed a significantly (P<0.05) lower ulcer index and higher inhibition percentage as compared to ulcer control group. The data suggest that honey contain factors that promote gastric mucosa cytoprotective effects. *C. odorata* enhances the effects of honey but the mechanism is still unclear.

**Keywords**: Honey, *C.odorata*, gastric ulcer, cytoprotective effects.

**Research area:** *Organic Chemistry*