

## Pharmacological Evaluation of Analgesic Activity of Aqueous Extract of Ricinus Communis Root Bark

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### ABSTRACT

The objective of present investigation is to evaluate analgesic activity of aqueous extract of Ricinus Communis root bark in mice. Analgesic activity of aqueous extract of Ricinus Communis root bark at a dose of 100mg/kg & 200mg/kg was evaluated against the standard drug diclofenac at a dose of 50mg/kg. Albino mice of either sexes of six number in each group was undertaken for study of evaluated by eddy's hot plate method & tail immersion method. The results indicated that the extract exhibited considerable anti-nociceptive activity against the two methods of pain in mice. The aqueous extract of Ricinus Communis root bark has potential anti-nociceptive activity. It may be due to presence of saponin, steroids & alkaloids in it.

**key words:** Ricinus Communis, hot plate method, tail immersion method analgesic methods.

### INTRODUCTION

Popularly known as castor plant, Ricinus Communis (euphorbiaceae) is flowering plant wide spread throughout tropical regions. The leaves & roots have been used for treatment of inflammation. If the plant possess anthelmintic, antidandruff, antitussive, hepato-protective, antifertility, anti-oxidant, antiulcer, anti-diabetic, wound healing, insecticidal & larvicidal activities. This activities of plant due to important phytochemical constituents like flavonoids, saponins, glycosids, alkaloids & steroids etc. in the present study the analgesic activity of Ricinus Communis root bark was evaluated in mice.

### MATERIALS AND METHODS

**Plant Material:** Ricinus Communis root were collected from guntur localities (andhrapredesh). The plant material was authenticated by Dr.Sk.khasim professor of botany Acharya Nagarjuna university.

**Preparation of extract:** For the preparation of extract 100gm's of extract Ricinus Communis roots were collected & dried. After that extracted with water by using soxhlet's apparatus. The aqueous extract was filtered and dried under reduced pressure to get a solid mass free from water. The yield was 6.5% with respect to dry strating material with characteristic odour. The dried extract was dissolved in solution of 0.3% CMC in distilled water (vehicle) for evaluation of analgesics activity.

**Experiomental animals:** Albino mice of weighing 25-30gm's of either sex were used for studies. The Animals were allowed to acclimatize in laboratory conditions & provided with standard diclofenac & water ad libitum. The experimental protocols were approved by institutional

animals ethical committee permission from in house ethical committee has been taken to carry out the study.

**Priliminary phytochemical screening:** Phytochemical screening of ARCR was carried out for alkaloids, flavonoids, saponins, steroids, glycosides by using standard products.

### ANALGESICS ACTIVITY

**Eddy's hot plate method:** The mice were divided into four groups of six animals each. control group was treated with 0.3% CMC (2ml/kg). Standard groups was treated with diclofenac 50mg/kg. test groups were treated with extract 100mg/kg & 200mg/kg. the temperature is controlled at 55-56°C. the animals were placed in hot plate & time is noted for what time did it respond to heat by showing actions like jumping, paw licking is recorded. The after administration of drugs the reaction time was measured at 0, 15, 30, 45 & 60 minutus.

**Tail immersion method:** The mice were divided into four groups of six animals in each group. Control group was treated with 0.3% CMC at (2ml/kg) standard group was treated with 100mg/kg diclofenac (50mg/kg) test groups were treated with 100mg/kg & 200mg/kg (p.o). the mice tail was immersed in hot water maintained at 55°C -55.5°C. the reaction time was noted to deflect their tails. The reaction time was measured before & 15, 30, 45, 60 minutes after administration of test drugs.

### STATESTICAL ANALYSIS

The mean value  $\pm$  SEM was calculated for each parameter. The results were analyzed statistically by one way ANOVA

The minimum level of significant was fixed at  $p < 0.05$ .

## RESULTS AND DISCUSSION

Results indicated that the extract possesses analgesic activity. Hot plate method & tail immersion method were mainly used to screening of central analgesics in these two methods the extract has been increased the latency period competed to central analgesic activity extract.

## CONCLUSION

The aqueous extract of *Ricinus Communis* root bark extract possesses potent analgesic effect against different noxious stimulation

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