International Journal of Scientific and Innovative Research 2021; 9(1) : 30 - 32
P-ISSN 2347-2189, E- ISSN 2347-4971

# THROMBOCYTE INCREASING POTENTIAL OF ETHANOLIC EXTRACT OF COCCULUS HIRSUTUS IN CHARLES FOSTER RATS

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## ABSTRACT

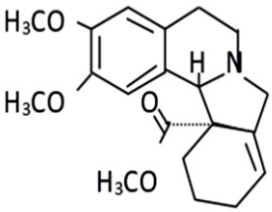
*Ethanolic extract of Cocculus hirsutus when orally administered at the dose levels of 500mg, 1000mg and 2000mg/kg body weight to Charles Foster rats showed significant platelets counts increasing activity. Thus, we suggest that it can be used as a promising product for the treatment of dengue in our country.*

***Keywords***: Thrombopoietic activity; Cocculus hirsutus ; Charles Foster rats

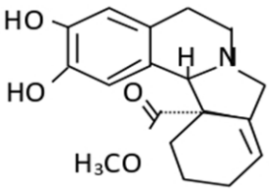
## INTRODUCTION

Cocculus hirsutus is a plant of family Merispermaceae and is a perinnial climber distributed mostly in tropical and subtropical areas. The extracts of this plant has been suggested for treatment of dengue (Nayyar *etal.* 2019; 2020). Antioxidant, immunostimulatory, immune modulatory, diuretic and hepatoprotective effects have been observed (Ganapathy *etal.,* 2002; Rastogi *etal.*, 2008; Ranjan *etal.,* 2009; Thakare *etal.*, 2010; Rakkimuthu *etal.*, 2012; Malik *etal.*, 2015) The active ingredients isolated from this plant are as follows:

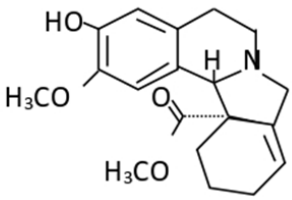
1. Jamtinine



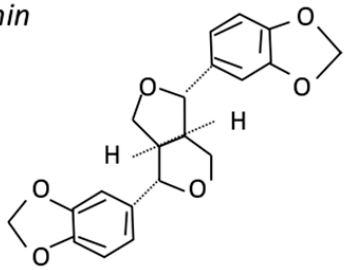

2. Haiderine



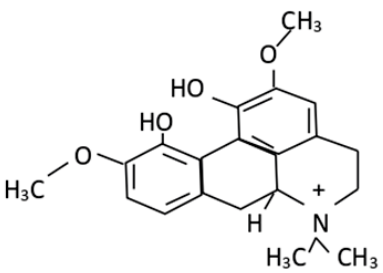

3. Hirsutine




4. Sesamin




5. Magnoflorine



## MATERIALS AND METHODS

### Experimental Animals

Inbred Charles Foster rats (150-170gm) were used for this study. The animals were maintained in polypropylene cages at a temperature of 23oc + 1oc and relative humidity of 50-60% in a clean environment under 12:12 hour light –dark cycle. The animals had free access to food pellets and purified water.

### Experimental Protocol

Forty animals were taken and assigned into four groups of ten animals (5 Males & 5 Females) in each group. Group I received 10.0ml/kg body weight tap water and Groups II,III & IV received orally 500mg, 1000 and 2000mg/kg body weight plant extract respectively from day 1 to 14 of the experiment

### Platelet Count

Platelet count was done on day 0,7 & 14 by using semi autohaematology analyzer.

## OBSERVATIONS AND RESULTS

The thrombolytic increasing potential is shown in the following table:-

Table: Showing effects of ethanolic extract of Cocculus hirsutus on rats:

| Groups | Doses | Platelets x$10^{3/}$Cum | | Days | |
|---|---|---|---|---|---|
| | | 0 | | 7 | 14 |
| I | Control | 775 ± 27 | | 773 ± 29 | 776 ± 25 |
| II | 500 mg/Kg Body weight | 779 ± 37 | | 815 ± 39 | 850 ± 42 |
| III | 1000mg/Kg Body Weight | 776 ±28 | | 835 ±32 | 871 ± 40 |
| IV | 2000 mg/Kg Body Weight | 773 ±25 | | 845 ±33 | 885 ± 47 |

Increases in platelet counts were dose related.

## DISCUSSION

***Cocculus hirsutus*** is widely used in traditional medicine systems in South Asia for the treatment of fever, skin diseases, cancer, stomach disorders, urinary diseases and also as a sedative among many others diseases (Thovamani *et al*; 2013,2014). In our laboratory . We have found significant thromboytes increasing potential in rats . Thus, the extract can be used for treatment of dengue patients.

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