

THROMBOPOIETIC ACTIVITY OF *TINOSPORA CORDIFOLIA* EXTRACT IN RATS

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ABSTRACT

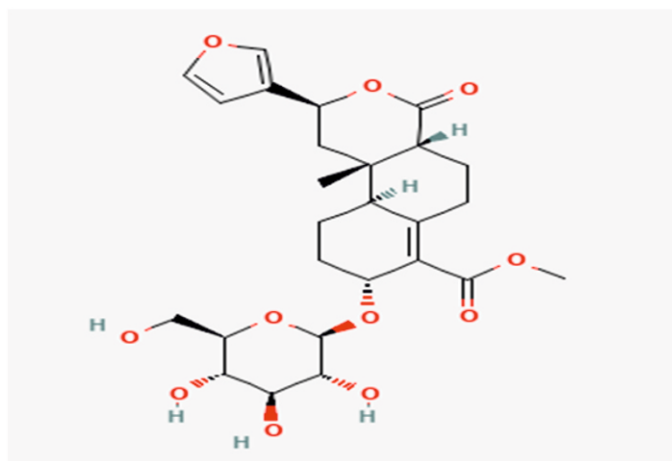
Tinospora cordifolia extract was observed to have thrombopoietic activity in rats. *Tinospora cordifolia* extract insignificantly increased the platelet counts in rats and it was dose related. In dengue, thrombocytopenia has been commonly observed, thus the extract of *Tinospora cordifolia* may be useful for dengue treatment.

Keywords: *Tinospora cordifolia*; Thrombopoietic activity; Rats

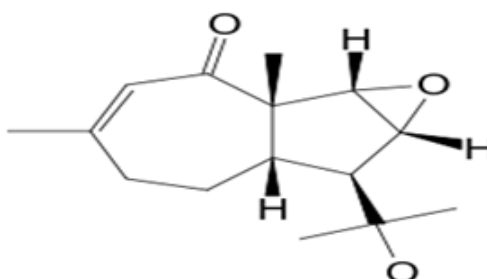
INTRODUCTION

Ayurveda is the science of life which was derived from spiritual visions. Since time immemorial it still continues as an important system of medicine and drug therapy in India. At present, there is no approved drug or vaccine for the treatment of dengue. Several researchers are trying to find therapeutic agents but they are in phase of

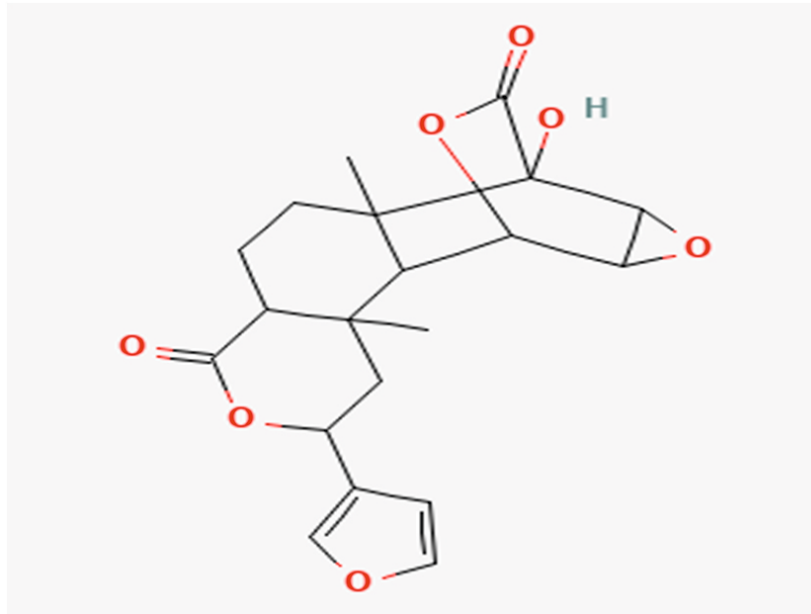
development. ^[1, 2, 3, 4] The use of alternative medicine and plant materials consumption has increased in the world. We have selected the plant *Tinospora cordifolia* for its thrombopoietic activity. Main phytoconstituents of *Tinospora cordifolia* are as follows:



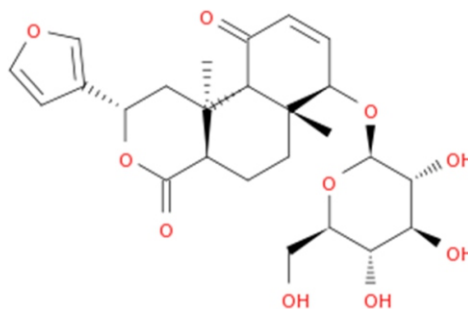
Cordiofoliside



Tinocordiofolin



Tinosporide



Tinosporaside

We have seen the effect of *Tinospora cordifolia* extract on platelet count in rats.

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 $23^{\circ}\text{C} \pm 1^{\circ}\text{C}$ 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 semiautohaematology analyzer.

OBSERVATIONS AND RESULTS

The thrombolytic increasing potential is shown in the following table

Table: Showing effects of *Tinospora cordifolia* on platelet counts of rats

Groups	Doses	Platelets x10 ³ /Cum	Days	
		0	7	14
I	Control	751±28	763±21	758±25
II	500 mg/Kg Body weight	747±23	781±33	803±31
III	1000mg/Kg Body Weight	759±19	837±35	889±29
IV	2000 mg/Kg Body Weight	763±26	895±36	918±28

Increases in platelet counts were dose related.

DISCUSSION

The leaves of papaya have been shown to contain many active components which increased the total antioxidant activity in blood and decreased lipid peroxidation like papain, chymopapain, tocopherol, ascorbic acid, glycosides, cystatin and flavonoids. The case study showed that leaves extract of *Carica papaya* taken continuously for five consecutive days toys daily increased the platelet counts, leukocyte counts and polymorph counts compared with before the treatment .^[5]

Tinospora cordifolia is known for strengthening of host immune system and activates macrophages.^[3]

In our studies *Tinospora cordifolia* extract insignificantly increased the platelet counts in rats and it was dose related. In dengue, thrombocytopenia has been commonly observed, thus the extract of *Tinospora cordifolia* may be useful for dengue treatment.

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