

## Screening of Psidium guajava Leaf Extracts for Antistress Activity in Different Experimental Animal Models

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### ABSTRACT

Ethanollic extract of leaves of *Psidium guajava* was investigated on anoxia stress tolerance test in Swiss mice. The animals were also subjected to acute physical stress (swimming endurance test) and acute heat induced stress to gauge the antistress potential of the extract. Further to evaluate the antistress activity of *Psidium guajava* in chronic stress condition, fresh Wistar rats were subjected to cold restraint stress (4 deg for 2 h) for 10 days. Stimulation of hypothalamus pituitary adrenal axis in stressful condition alters plasma glucose, triglyceride, cholesterol, BUN and corticosterone levels. There is also alteration in the blood cell counts. Pretreatment with the extract significantly ( $P < 0.001$ ) ameliorated the stress-induced variations in these biochemical levels and blood cell counts in both acute and chronic stress models. The extract treated animals showed increase in swimming endurance time and increase in anoxia tolerance time in physical and anoxia stress models respectively. Treatment groups also reverted back increase in liver, adrenal gland weights and atrophy of spleen caused by cold chronic stress and swimming endurance stress models. The results indicate that ethanollic extract of *Psidium guajava* has significant adaptogenic activity against a variety of biochemical and physiological perturbations in different stress models.

### KEYWORDS

Acute heat stress . Adaptogenic . Antistress . Cold restraint stress . *Psidium guajava* .  
Swimming stress

### REFERENCES

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