

## Screening of microfilaricidal effects of plant extracts against *Dirofilaria immitis*

### ABSTRACT

Canine dirofilariasis is a common tropical parasitic disease of companion animals, caused by infestation of *Dirofilaria immitis* filarids within the pulmonary arteries and extending into the right heart. Increased reports of adverse reactions elicited by current microfilaricidal agents against *D. immitis* such as neurological disorders, circulatory collapse and potential resistance against these agents, warrant the search for new agents in forms of plant extracts. The use of plant extracts in therapeutic medicine is commonly met with scepticism by the veterinary community, thus the lack of focus on its medical potential. This study evaluated the presence of microfilaricidal activities of the aqueous extracts of *Zingiber officinale*, *Andrographis paniculata* and *Tinospora crispa* Miers on *D. immitis* in vitro at different concentrations; 10 mg/ml, 1 mg/ml, 100 lg/ml, 10 lg/ml and 1 lg/ml within 24 h, by evaluation of relative microfilarial motility as a measure of microfilaricidal activity. All extracts showed microfilaricidal activity with *Z. officinale* exhibiting the strongest activity overall, followed by *A. paniculata* and *T. crispa* Miers. It is speculated that the microfilaricidal mechanism exhibited by these extracts is via spastic paralysis based upon direct observation of the microfilarial motility.

**Keyword:** *Dirofilaria immitis*, *Zingiber officinale*, *Andrographis paniculata*, *Tinospora crispa* Miers