IN VITRO EVALUATION OF THE ANTHELMINTIC POTENTIAL OF *Rosmarinus officinalis* qt. CINEOL ESSENTIAL OIL AGAINST *Strongyloides venezuelensis*

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Strongyloidiasis is a neglected parasitic disease, with severe cases predominantly affecting immunocompromised individuals, potentially leading to fatal outcomes. The search for alternative treatments is essential due to therapeutic failures and the increasing resistance of parasites to conventional treatments. The therapeutic use of medicinal plants, such as phytotherapy, is an ancient practice that has gained recognition among complementary integrative practices. Brazil, with its rich biodiversity, harbors numerous plants with bioactive compounds that remain underexplored, including *Rosmarinus officinalis*. The essential oils of this plant contain pharmacologically active compounds, making them strong candidates as anthelmintic agents. In this context, the present study aimed to evaluate the in vitro anthelmintic potential of *R. officinalis* qt. Cineol essential oil. The larval motility inhibition test was conducted using *S. venezuelensis* L3 larvae incubated with different concentrations of the essential oil (200, 160, 140, 120, 80, 40, 20, and 10 mg/mL). Ivermectin (0.00036 mg/mL) served as the positive control, while water and PBS-DMSO (1%) were used as negative controls. Samples were analyzed after 24, 48, and 72 hours in triplicate. At higher concentrations, the oil achieved 100% inhibition of larval motility, similar to the positive control. The IC50 values obtained were 17.77 mg/mL at 24 hours, 14.88 mg/mL at 48 hours, and 22.26 mg/mL at 72 hours of exposure. Inhibition increased over time at concentrations of 40, 20, and 10 mg/mL, but without full effectiveness. The effectiveness of *R. officinalis* L. qt. Cineol essential oil was more dependent on concentration than on exposure time. In conclusion, *R. officinalis* essential oil, particularly its cineol fraction, exhibited anthelmintic activity against *S. venezuelensis* larvae, and further studies are needed to assess its in vivo efficacy.

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