

# OFFICIAL ABSTRACT and CERTIFICATION

## Exploring the Role of Cannabidiol in a Caenorhabditis elegans Epilepsy Model

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The role of cannabidiol in a *C. elegans* model was analyzed using adenosine and tumor necrosis factor alpha antagonists to further elucidate the protective effects of cannabidiol in mitigating seizure activity. Convulsive-sensitive mutant unc-49 *C. elegans* were cultured in NGM agar with OP50 *E. coli* with tumor necrosis factor alpha antagonist etanercept and the adenosine antagonist ZM241385 to diminish the antiepileptic effects of cannabidiol and increase epileptiform activity in unc-49 *C. elegans*. *C. elegans* convulsions were induced with pentylenetetrazole and recorded utilizing a dissecting microscope. Furthermore, the addition of adenosine agonist methotrexate restores the protective effects of cannabidiol.

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