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ANTIOXIDANT AND IMMUNOSTIMULATORY ACTIONS PROMOTED BY *Passiflora edulis* ETHYL ACETATE EXTRACT

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ABSTRACT

Passiflora edulis is a plant belongs to the tropical and subtropical region of South America. The plant is widely cultivated around the world due to the economic and medicinal value added to its fruit and derivatives. *P. edulis* have recognized sedative and tranquilizing activities and, due this, their leaves and fruits have been used as popular compounds for alcoholism, anxiety, migraine, nervousness, and insomnia treatments. Many studies have been shown anxiolytic, anti-inflammatory, antioxidant activities, and possible therapeutic applications using different organs of *P. edulis*. The present study investigated the possible antioxidant and immunostimulatory properties of ethyl acetate extract, obtained from leaves of *P. edulis* F. *flavicarpa* (Passifloraceae). Results showed that the extract present 32% of total antioxidant activity and 15.91% (0.5 mg/mL) of ABTS reducing power (63% and 0.07% to BHT, respectively). BALB/c mice splenocytes cultures were stimulated, *in vitro*, with *P. edulis* ethyl acetate extract (3 – 50 µg/mL) in CO₂ incubator (37°C) for 24 hours. Cytotoxicity of extract was measured through flow cytometer (FACSCalibur BD Biosciences®) using propidium iodide (PI) as prob. Results were analyzed using Flowing 2.01 software®. No concentration evaluated was able to promote cell death in mice splenocytes. Furthermore, supernatants of splenocytes cultures incubated with ethyl acetate extract at 12.5 µg/mL were analyzed and the production of IL-4, -6, -10, -17, and TNF-α cytokines presented high levels when compared to control. The higher production of IL-10 and IL-4 cytokines also indicates the possible anti-inflammatory status. The ethyl acetate extract of *P.*

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edulis have moderate antioxidant action and is able to induce immunostimulation in mice splenocytes *in vitro*. These findings can be predictive for a future study using the leaf extracts of *P. edulis* as a cellular stimulator agent in phytotherapeutic formulations.

Keyword: Anti-inflammatory; organic extract; *Passiflora edulis*; phytotherapeutic formulations.