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Research abstract

## Effect of Fruit Mistletoe (*Cladocolea loniceroides*) Extract Over Viability of Cell Cultures

María José Serrano-Maldonado<sup>1\*</sup>, Frida Paredes-Ruiz<sup>1</sup>, Pablo Damián-Matzumura<sup>2</sup>,  
Teresa García-Gasca<sup>3</sup> and Jorge Soriano-Santos<sup>1\*</sup>

Universidad Autónoma Metropolitana, Iztapalapa <sup>1</sup>Biotechnology Department. <sup>2</sup>Reproduction Biology Department., Mexico City, Mexico. <sup>3</sup>Universidad Autónoma de Querétaro, Natural Sciences Faculty. Querétaro, Mexico.

**Abstract:** Mistletoe is a tree parasitic plant, its impact is rather negative causing great tree mortality and economic losses around the world. *Cladocolea (C.) loniceroides*, a Mexican endemic mistletoe represents a serious pest and it has not been studied until today. It was considered useless because of the pruning problem, however previously have been found that fruit aqueous extract of *C. loniceroides* presents antioxidant activity. Partial phytochemical screening was assessed on a red fruit aqueous extract. Total polyphenols ( $52.6 \pm 1.47$  mg GAE/g), flavonoids ( $0.23 \pm 0.003$  mg RE/mg), condensed tannins ( $14.78 \pm 0.25$  mg CE/g) and alkaloids ( $69.32 \pm 0.9$  mg/g) were evaluated by colorimetric methods. Medium lethal concentration (LC<sub>50</sub>) was determined to ZR75-1, MCF7, MDA-MB-231 as breast cancer cell lines and MCF10A as non-cancerous cell line. In order to evaluate the death of the four cell lines under mistletoe treatment, MCF10A was significantly more resistant to fruit extract (LC<sub>50</sub>=196.6 µg GAE/mL) than the other cell lines, this cells are roughly, 170% more resistant than MDA-MB-231 (metastatic tissue) with LC<sub>50</sub>=72.8 µg GAE/mL. The biological activity of the extract is mainly attributed to antioxidant phytochemicals because of their capacity to stopped free radicals produced in chronic diseases such as cancer.

**Keywords:** mistletoe, phytochemicals, cancer cell lines, LC<sub>50</sub>

**Corresponding author: Jorge Soriano-Santos\***

e-mail: [jss@xanum.uam.mx](mailto:jss@xanum.uam.mx), [ma.jose.serranom@gmail.com](mailto:ma.jose.serranom@gmail.com)