



**Anti-oxidant, Anti-inflammatory and Cytotoxic activity of  
*Citrus macroptera* Montruz extracts**

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**Abstract :** *Citrus macroptera* Montruz. fruits were collected, its rind was dried and powdered. Three different organic extracts, aqueous (NC1), methanol (NC2) and aqueous methanol (NC3) were prepared. *In vitro* antioxidant and anti-inflammatory activities were done followed by *in vivo* studies. NC1 showed highest antioxidant (DPPH-IC<sub>50</sub> 87.83 µg/g, reducing power assay 36.71 µg/g) and highest protease inhibitory (20.44 µg/mL) activity. It showed IC<sub>50</sub> 148.44 µg/mL against HeLa cells in MTT (3-(4, 5- dimethylthiazol-2-yl)-2, 5- diphnyltetrazolium bromide) assay. In *in vivo* anti-inflammatory activity assay, the effect was almost comparable with standard drug diclofenac sodium at 4<sup>th</sup> and 6<sup>th</sup> hr after administration when compared to the control group. NC2 exhibited more amount of anti-inflammatory activity than the NC1 and NC3 extract. The designed studies indicate remarkable potential of *C. macroptera* as dietary source of antioxidant, anti-inflammatory and cytotoxic agents. Studies on isolation of lead compound attributing the studied bioactivity is under progress.

**Keywords:** DPPH, protease inhibitory, albumin denaturation, MTT, clonogenic activity, Carrageenan.

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