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Morinda (*Morinda citrifolia* Linn) as a Aandidate for Ulcerative Colitis Therapy and Investigation of Antioxidant and Cytotoxic Activity in RAWS 264.7 Cells

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ABSTRACT

Ulcerative Colitis (UC) is treated with corticosteroids, immunosuppressants, and biological agents, but this can trigger the emergence of other diseases. The use of herbal medicine is known to overcome this deficiency. *Morinda citrifolia* Linn contains flavonoid compounds that can provide preventive and therapeutic effects by reducing pro-inflammatory cytokines so it is thought to improve UC conditions. This study aims to determine the potential of Morinda Fruit Extract (MFE) as a candidate for UC therapy by determining antioxidant and cytotoxic activities in RAWS 264.7 cells in vitro. RAWS 264.7 cells were cultured in RPMI medium supplemented with the antibiotics Penicillin-Streptomicin 2%, Fetal Bovine Serum (FBS) 10%, Amphotericin 0.5% and Fungizone 1%. RAW 264.7 cells summarized eight different treatments, namely non-treated (NT) as a negative control, quercetin 15 µg/ml as a positive control, and graded MFE concentrations. The antioxidant treatment was tested using the DPPH and FRAP methods while the cytotoxicity test on cells was tested using the MTT test method. The data obtained were analyzed using a one-way Anova test followed by a post hoc test. The research results showed that the antioxidant power IC_{50} when given MFE was 74.9 µg/mL and the data also showed the effect of giving MFE in reducing the viability and optimal adhesion of RAW 264.7 cells at a concentration of 300 µg/ml. The antioxidant power of MFE makes MFE a potential UC treatment candidate.

Keywords: Collitis Ulcerative, Morinda Fruit, Alternative therapy, Antioxidant, Inflammation