The Effect of Leaf, Fruit and Root Extract of Noni Plant (Morinda citrifolia) on Triple Negative Breast Cancer Cell Growth

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Cancer is currently the second leading cause of death in the world. There are several treatments available, but most have side effects or are highly expensive. Therefore, it is necessary to explore new natural alternatives to treat it. This research aims to determine whether the Noni plant can inhibit the growth of cancer cells. The Noni plant (Morinda citrifolia) has been shown to possess various properties, including antioxidant, anti-inflammatory, and anti¬ cancer effects, among others. In this study, triple negative breast cancer cells (MDA-MB-231) were used, as it is the most aggressive form of breast cancer. Three extracts (fruit, root, and leaf) from the Noni plant were prepared. The TNBC cells were then cultured in RPMI and exposed to the extracts for 24, 48, and 72 hours, in serial dilutions. The results indicated that all extracts inhibited the growth of cancer cells. However, the leaf extract was the most effective at 72 hours of exposure, and an ANOVA test confirmed a significant difference when comparing cells without the extract to those treated with the leaf extract and the pure compound (damnacantal).

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