Cytotoxicity of Water and Ethanol Extracts of *Morinda citrifolia* (L.) Against Normal Epithelial and Breast Cancer Cell Lines

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**Abstract**

*Morinda citrifolia* has been used by Polynesians throughout recorded history in a variety of medicinal preparations and as a famine food. In recent years, interest in noni has grown to such an extent that a large and lucrative market now exists. Noni has been promoted as a treatment for a vast array of medical conditions ranging from cancer to sexual dysfunction. Relatively few studies have ever been done concerning the efficacy of noni in these conditions. None have been done comparing the effects of noni exposure on cancer cells and corresponding normal cells of the same tissue type. In this study, the cytotoxic effects of water and ethanol extracts of whole noni fruit, pulp, peel and seed are studied on HMEC (Clonetics Human Mammary Epithelial Cells), MCF-7 breast carcinoma and an invasive variant of MCF-7(MCF-7i), which was developed in our lab. The XTT protocol from Boehringer Mannheim and the ToxiLight and ViaLight HS protocols from BioWhittaker were used to determine the cytotoxicity of noni extracts on all three cell lines. Initial data indicate that noni demonstrates general cytotoxicity and this effect was similar on normal breast epithelial HMEC cells, non-invasive and invasive breast carcinoma cells MCF-7 and MCF-7i.