

Cardiospermum Halicacabum Seeds: a Potential Human Breast Cancer Cell Lines Growth Inhibitors

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Abstract

Introduction Among different types of medication for cancer, medicines of natural sources have been had proven significant effect on preventions and cure of cancer due to their lesser side effects in comparison with other therapies. Hence, based on traditional hypotheses *Cardiospermum halicacabum* Linn. Seeds cytotoxic activity investigated against various human breast cancer cell lines.

Materials and Methods: *Cardiospermum halicacabum* seed powder extracted with various solvents and fractioned with column chromatography technique. Different types of human breast carcinoma cell lines, namely MCF-7, MDA-MB-231, MDA-MB-435 selected for this test. Their cytotoxicity investigated with Sulforhodamine B colorimetric (SRB) assay. Active samples subjected to analysis by Gas chromatography - mass spectrometry (GC-MS) to identify active anticancer compounds.

Results: The study revealed the potential cytotoxic activity of *C. Halicacabum* Linn seeds against MCF-7 breast cancer cell line with 50% growth inhibition value (GI50) of 12.8 µg/ml and cytotoxicity effect of fractions of seed against MCF-7 breast carcinoma with 50% growth inhibition value (GI50) of <10 µg/ml. The GC-MS analysis suggested the presence of active components that led to this result.

Conclusions: The results proved the medicinal value of *Cardiospermum halicacabum* Linn. Seeds inhibition effect on MCF-7 cells as an active antineoplastic agent which may be used in cancer therapy researches.