

# An investigation of Anti-cancer activity of *Moringa oleifera* leaves

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## Abstract

*Moringa oleifera* have been called a “Miracle tree” for its variety uses of all parts of the tree (seeds, leaves, fruits, roots, bark). Many researchers have reported that *Moringa oleifera* plant can be considered for a balanced nutrition for population, it is used in many countries at tropical and subtropical belt as a daily food and medicine. It is used as antifungal, anti-skin disease agent. The fruits are potential anti-inflammatory phenolic glycosides. Leaves were reported as good anti-oxidant. The seeds and stem bark showed antioxidant activity as well. In addition, *Moringa oleifera* seeds can be used as anti-tumor. Experimental work of other researchers emphasized on the presence of anti-cancer compounds in the seeds. *Moringa oleifera* leaves extract has potential as anti-cancer too. To investigate the anti-cancer ability of *Moringa oleifera* leaves, the brine shrimp lethality assay is considered a useful tool for preliminary assessment of toxicity. It has also been suggested for screening pharmacological activities in plant extracts. Therefore, this preliminary study was carried out to investigate the brine shrimp lethality by *Moringa oleifera* leaves. The results showed that the *Moringa oleifera* leaves can be considered as anti-cancer agent. The fresh leaves were grinded and applied to brine shrimp to be evaluated in the lethality test of brine shrimp. Toxicities of extract were tested at different dose of 5, 10, 15, and 20 mg of *Moringa oleifera* leaves. The survivors of brine shrimp were counted during 24 h. A parallel series of tests with the standard potassium dichromate solution (positive control) and the blank control were conducted. The lethality was 100% during 18 hrs using 10 mg *Moringa oleifera* leaves. It is encouraging results to do further studies for considering *Moringa oleifera* leaves as anti-cancer daily basis nutrition.

Keywords: *Moringa oleifera*, anti-cancer, brine shrimp bioassay.

## Introduction

*Moringa oleifera* have been called a “Miracle tree” for its variety uses of all parts of the tree (seeds, leaves, fruits, roots, bark). Many researchers have reported that *Moringa oleifera* plant can be considered for a balanced nutrition for population, it is used in many countries at tropical and subtropical belt as a daily food and medicine. Yameoga et al., (2011) reported that *Moringa oleifera* plant can be considered for a balanced nutrition for population, it is used in many countries at tropical and subtropical belt as a daily food and medicine. It is used as antifungal (Ping-Hsien et al., 2007) and anti-skin disease agent. Cheenpracha et al., (2010) reported that the fruits are potential anti-inflammatory phenolic glycosides. Leaves was reported as good anti-oxidant (Chumark et al., 2008; Verma et al., 2009; Siddiq et al., 2005; Moyo et al., 2012; Iqbal & Bhanger, 2006; Vongsak et al., 2013; Qwele et al., 2013). The seeds showed antioxidant activity

