

Moringa oleifera Lam: targeting chemoprevention

ABSTRACT

Moringa oleifera Lam, family Moringaceae, is a perennial plant which is called various names, but is locally known in Malaysia as "murungai" or "kelor". Glucomoringin, a glucosinolate with from *M. oleifera* is a major secondary metabolite compound. The seeds and leaves of the plant are reported to have the highest amount of glucosinolates. *M. oleifera* is well known for its many uses health and benefits. It is claimed to have nutritional, medicinal and chemopreventive potentials. Chemopreventive effects of *M. oleifera* are expected due to the existence of glucosinolate which it is reported to have the ability to induce apoptosis in anticancer studies. Furthermore, chemopreventive value of *M. oleifera* has been demonstrated in studies utilizing its leaf extract to inhibit the growth of human cancer cell lines. This review highlights the advantages of *M. oleifera* targeting chemoprevention where glucosinolates could help to slow the process of carcinogenesis through several molecular targets. It also includes inhibition of carcinogen activation and induction of carcinogen detoxification, anti-inflammatory, anti-tumor cell proliferation, induction of apoptosis and inhibition of tumor angiogenesis. Finally, for synergistic effects of *M. oleifera* with other drugs and safety, essential for chemoprevention, it is important that it safe to be consumed by human body and works well. Although there were promising evidence about *M. oleifera* in chemoprevention extensive research need to be done due to the expected rise of cancer in coming years and to gain more information about the mechanisms involved in *M. oleifera* in uence, which could be a good source to inhibit several major mechanisms involved in cancer development.

Keyword: *Moringa oleifera*; Glucosinolate; Glucomoringin; Chemopreventive