

Cytotoxic activity of kenaf (*Hibiscus cannabinus* L.) seed extract and oil against human cancer cell lines

Abstract

Objective: To examine the cytotoxic properties of both the kenaf (*Hibiscus cannabinus* L.) seed extract and kenaf seed oil on human cervical cancer, human breast cancer, human colon cancer and human lung cancer cell lines. **Methods:** The in vitro cytotoxic activity of the kenaf (*Hibiscus cannabinus* L.) seed extract and kenaf seed oil on human cancer cell lines was evaluated by using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide and sulforhodamine B assays. Cell morphological changes were observed by using an inverted light microscope. **Results:** The kenaf seed extract (KSE) exhibited a lower IC₅₀ than kenaf seed oil (KSO) in all of the cancer cell lines. Morphological alterations in the cell lines after KSE and KSO treatment were observed. KSE and KSO possessed effective cytotoxic activities against all the cell lines been selected. **Conclusions:** KSE and KSO could be potential sources of natural anti-cancer agents. Further investigations on using kenaf seeds for anti-proliferative properties are warranted.

Keyword: 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; Sulforhodamine B assay; Human cervical cancer; HeLa; Human breast cancer; Human colon cancer; Human lung cancer