



Research Journal of  
**Medicinal  
Plant**

ISSN 1819-3455



Academic  
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## **Anti-cancer Activity Exhibited by *Boesenbergia* species Plants: An Experimental Study**

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Medicinal plants are gaining popularity due to fewer side effects, better compatibility and in case of some chronic diseases as an only available source of treatment (Karim *et al.*, 2011).

Anti-cancer activity of different *Boesenbergia* species has been discovered jointly by the researchers at the Institute for Tropical Biology and Conservation, Laboratory of Natural Products, Universiti Malaysia, Faculty of Civil Engineering and Environment, Universiti Tun Hussein Onn, Malaysia and Faculty of Medicine and Health Sciences, Universiti Putra, Malaysia.

According to new experimental study, *Boesenbergia rotunda* sub-stantiated best anticancer medicinal plant. This plant showed most significant anti proliferative activity against different cancer cell lines such as ovarian (CaOV), breast (MDA-MB-231 and MCF-7), cervical 3 (HeLa) and colon (HT-29) as compared with standard drugs.

Similarly, rhizome of *Boesenbergia pulchellavarattenuata* and *Boesenbergia armeniaca* also showed significant anti proliferative response but it was effective only against hormone dependent breast cancer MCF-7 cell lines.

Researchers found that all the plant extracts tested were less effective against control cell lines (3T3-mouse fibroblast) as compared with standard drugs which prove that these extracts are safe against normal cell lines.

Amazingly the rhizome of *Boesenbergia* showed better anti-proliferative response as compared with leaves of all *Boesenbergia* species against different cancer cell lines. A dose dependent growth inhibition at different concentration of drug was also observed by researchers.

Earlier study also showed that the compounds isolated from the rhizomes of *Boesenbergia* species was very much effective against HL-60 cancer cell line and the active constituents of *Boesenbergia* revealed most potent cytotoxic activity (Sukari *et al.*, 2007).

In order to achieve the therapeutic benefits, further study is required to investigate the anticancer activity of these plants extract with special reference to their effect on inducing the cell apoptosis. Authors are planning to perform more definitive study using advanced research techniques in near future.

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