

–Jungli Tulsi as a potential anti cancer agent?

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A new research done by scientists at the Sri Ramachandra University (SRU) in Chennai, has shown how an herb could be used as a potential anticancer agent without disturbing the normal cells. The research was done on the herb *Croton bonplandianus* Baill known in Hindi as –Jungli Tulsi, found mostly found in South India. Among the various extracts obtained from the leaves of the plant, the acetone extract has shown promising cytotoxic and proapoptotic activities against lung cancer cells A549.

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The problem:

Cancer remains the major human health threats worldwide. Lung cancer has been the most common cancer worldwide contributing 13% of the total number of new cases diagnosed in 2012. In India, NCDIR-NCRP(ICMR) 2016 data reports significant increase of incidence of lung cancer in women from Bangalore, Chennai, Delhi and Mumbai.

The research

–Lung cancer cell line A549 (Adenocarcinomic human alveolar basal epithelial cells) was subjected to cell viability test (MTT assay) to find out the percentage of cell death induced by the extract,– says Sumathy A the lead author. The apoptosis (cell death) was further confirmed by staining with AO/EB and Hoechst. Apoptosis induced morphological changes could be seen in the cancer cells but these changes were not seen in the normal cells. To further reinforce our result, the treated cells were subjected to flow cytometry. Interestingly, in the cell cycle G2/M phase was arrested by the extract, leads to the accumulation of cells in G0/G1 phase.

What next?

Since the acetone extract of the *Croton bonplandianus* has shown anticancer activity, it becomes mandatory to isolate the novel compound present in the acetone extract. Hence, the compound will be isolated and characterized through the bioassay guided fractionation procedures. The isolated compound will be further screened for its anticancer activity against various cancer cell lines. In the next level, the novel compound will be studied for its anticancer activity in the animal models.