

**RESEARCH ARTICLE**

**In vitro Antioxidant potential and Anticancer activity of *Ceratophyllum demersum* Linn. extracts on HT-29 human colon cancer cell line**

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**ABSTRACT:**

**Objective:** To decide the phytochemical constituents, antioxidant and anticancer potential of *Ceratophyllum demersum* Linn. extracts on HT-29 human colon malignant growth cell line. **Methods:** The whole plant was exposed to Hot Soxhlet continuous extraction with expanding polarity of solvents viz., pet ether, chloroform, ethanol, and aqueous maceration. Phytochemical screening was finished utilizing distinctive phytochemical tests. The antioxidant potential was tried utilizing 2, 2-diphenyl-1-picrylhydrazyl, ferric ion reducing power assay and phosphomolybdenum assay. In vitro anticancer action tried on HT-29 human colon malignant growth cell line and it was assessed by (3-(4, 5-dimethyl thiazole-2yl)- 2, 5-diphenyl tetrazolium bromide) MTT test. **Results and Discussion:** Preliminary Phytochemical screening affirmed the presence of phytoconstituents like alkaloids, flavonoids, glycosides, saponins, sterols, tannins, and reducing sugar. Antioxidant potential was demonstrated most noteworthy in ethanol extracts dependent on the test performed. The ethanol extracts were seen as specifically cytotoxic to HT-29 human colon malignant growth cell line. **Conclusion:** The outcomes show that *Ceratophyllum demersum* Linn. was a promising antioxidant; and anticancer agent for HT-29 human colon malignancy cell line. In any case, further examinations are expected to presume that the particular constituent liable for its antioxidant action and cancer prevention agent.

**KEYWORDS:** Phytochemical; antioxidant; anticancer; colon cancer; *Ceratophyllum demersum*.

**1. INTRODUCTION:**

Cancer is a disease described by uncontrolled engendering of cells that have changed from the typical cells of the body. The malignant growth cells can attack the neighbouring and distant tissues via the circulation. In advanced stages, a malignant growth patient may die because of either ill-advised finding or treatment disappointment. Malignancy is one of the push zones for which powerful medications at reasonable costs are not accessible until now presumably because of an absence of understanding the disease pathophysiology. For such a ghastly infection hostile to malignancy drugs have been created from an assortment of sources extending from normal items (plants and organisms) to synthetic particles.

The broadly utilized medications that are malignant growth chemotherapeutic specialists experience the ill effects of the downside of high danger, for example, bone marrow concealment, alopecia, queasiness and spewing and are not inside the compass of a typical man [1,2].

Medicines acquired from plants have assumed a central job in the social insurance of ahead of schedule and late societies. Ayurveda, the Indian arrangement of medication for the most part utilizes plant based medications or formulations to treat different sicknesses including malignancy. About 60% of medications allowed for cancer treatment are of natural source. Vincristine, Etoposide, Irinotecan, Taxanes and Camptothecines are instances of plant-derived anti-cancer compounds. [3,4]