

## New Anticancer Substance Found

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New anticancer substance has been identified from a western Himalayan plant-inhabiting fungus that is as efficient as potent anticancer drugs, claim scientists at the Thapar University, Patiala in their recent study.

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Taxol is called a million dollar anticancer drug because it is used for treating a variety of tumors including breast, ovarian, lung, bladder, prostate, melanoma, esophageal, and recently for Kaposi's sarcoma. It is derived from the plant *Taxus baccata* that is a slow growing western Himalayan conifer. It is also home to many endophytic fungi that share a mutual relationship with the *Taxus* tree, in return for shelter, the fungi provide compounds called secondary metabolites that protect the tree from biotic and abiotic stresses. Endophytic fungi are hence, hunted for and used to derive natural substances with antimicrobial, anti-inflammatory, and anti-cancer properties.

Recently, researchers at the Thapar University, Patiala, Punjab isolated and identified a fungus called *Fusarium tricinctum* from the bark of *Taxus baccata* tree and tested its anticancer and antioxidant properties. The crude fungal extract at a concentration of 350ug ml<sup>-1</sup> inhibited the growth of two cancer cell lines namely breast and cervical, as efficiently as paclitaxel that is a known potent anticancer drug. It also inhibited the production of an inflammatory cytokine- TNF- $\alpha$  by blood cells, a phenomenon that is known to increase during cancer. In addition to its anticancer properties, it also scavenged free radicals as efficiently as ascorbic acid when used at concentration of 1mg ml<sup>-1</sup> in culture conditions. Free radical scavenging is important in diseases such as alzheimer's, diabetes and cancer, where free radicals accelerate the pace of damage. The scientists claim, "... (Their) study results suggest that *F. tricinctum* has the potential to be used for therapeutic purposes because of its anti-proliferative and antioxidant potential".

Natural compounds for treating cancer are sought after because they are less harmful and toxic than chemically synthesized drugs that cause adverse effects during chemotherapy. More such compounds need to be deciphered and clinically tested to manage and cure cancer.

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