

Abstract

# Growth Factors Responsible from the Cancer Progress: Role of Natural Products <sup>†</sup>

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**Abstract:** Growth factors are one of the main factors responsible from the uncontrolled cell progress in cancer. Up to date many scientists have focused on these factors either as the marker or as the targets in several cancer types. Mainly the drugs are designed to target these factors are monoclonal antibodies. Nerve growth factor (NGF), epidermal growth factor (EGF), hepatocyte growth factors (HGF), fibroblast growth factors (FGF), vascular endothelial growth factors (VEGF), platelet derived growth factor (PDGF), transforming growth factor (TGF- $\beta$ ) are some of these factors not only increasing the ability of cell proliferation but also playing crucial roles in triggering the invasion and metastasis of the cells. The herbs that are traditionally used for anticancer treatment and target multiple interdependent processes. Given the multiple effects of these agents, their future use for cancer therapy probably lies in synergistic combinations. For instance, *Artemisia annua*, *Viscum album*, *Curcuma longa*, *Camellia sinensis*, *Vitis vinifera*, *Angelica sinensis*, *Taxus brevifolia*, are some of the herbs that has shown to affect VEGF and those which have additional effects on the molecules related to cancer progress and further can target other growth factors. During active cancer therapy, they should generally be evaluated in combination with chemotherapy and radiation. In this role, they act as modifiers of biologic response, potentially enhancing the efficacy of or reducing the resistance to the conventional therapies.

**Keywords:** VEGF; PDGF; FGF; EGF; NGF; TGF-beta



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