



## Research Highlight

# VIPALBUMIN®: AN ANTI-INFLAMMATORY SUPPLEMENT

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Chronic inflammation

autoimmune diseases

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Inflammation is a physiological response to an injury caused by the external factor. Inflammation is caused by a number of physical reactions triggered by the immune system in response to an infection.

Inflammation does not necessarily mean that there is an infection, but an infection can cause inflammation. Inflammation can be of two types; acute and chronic inflammation. Acute inflammation usually caused by injury and chronic inflammation caused by pathogen or entry of foreign bodies which that remain in the system.

Chronic inflammation often termed as 'Long term inflammation' because it lasts for several months and even years. Chronic inflammation can cause several ailments including pulmonary diseases, cardiovascular diseases, autoimmune diseases and cancer as well as diabetes mellitus<sup>1</sup>.

Inflammation is the response of tissue to injury and is characterized in the acute phase by amplified blood flow and vascular permeability along with the buildup of fluid, leukocytes as well as inflammatory mediators including group of secreted polypeptides

termed as cytokines. These cytokines play crucial roles in mediating acute inflammatory reactions.

Accordingly, activation of the NF- $\kappa$ B has a significant role in inflammation through its capability to induce transcription of pro-inflammatory genes. This pathway is activated on precise cellular stimulation, generally by signals associated with stress or pathogen<sup>2</sup>. Scientists have also explained the role of NF- $\kappa$ B in macrophage cells that coordinate expression of the gene encoding iNOS, COX-2, TNF- $\alpha$  as well as another protein<sup>3</sup>. NF- $\kappa$ B is required for the ability and reaction of TNF- $\alpha$  to stimulation of TNF- $\alpha$  and IFN- $\gamma$  synergistically from Bf gene<sup>4</sup>.

VipAlbumin® is a supplement from snakehead fish (*Ophiocephalus striatus*) having elevated amount of albumin which is very important to develop new cells. It is reported that snakehead fish has high protein content which is 25.5% as compared to milkfish (20.0%), goldfish (16.05%), snapper (20.0%) and sardines (21.1%)<sup>5</sup>.

Accordingly, a new research was performed in order to proof this anti-inflammatory

activity by altering pro-inflammatory cytokines production, macrophage cell number and NF- $\kappa$ B on lymphocyte T as well as macrophage cell *in vitro*<sup>6</sup>.

At the end of this experiment, it was found that VipAlbumin® not only lessens the number of macrophage cells, TNF- $\alpha$  and IFN- $\gamma$  cytokines and IL-6 cytokines, but also holds back NF- $\kappa$ B activation in CD4+ and CD8+T cells and macrophage cells considerably. The crux of matter is VipAlbumin® has anti-inflammatory activity. Conclusively, these findings confirmed that this supplement can be employed to heal several diseases, caused due to inflammation.

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