

NUTRITION AND FOOD SCIENCES

March 03-04, 2022 | Webinar

Effects of Herbal Nutraceuticals on C-Reactive Protein, Tumor Necrosis Factor, and Nuclear Factor- κ B.

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Up-regulation of inflammatory pathways is the genesis for a plethora of chronic cardiovascular, cancerous, and immunocompromised states. Increased pro-inflammatory markers and upregulated inflammatory pathways are the major pathogenic factors driving chronic inflammatory disease. C-reactive protein (CRP) levels, interleukin 6 (IL-6), and tumor necrosis factor (TNF- α) are elevated during prolonged chronic inflammatory disease states.

Nuclear Factor (NF- κ B) is the chief molecular mediator of the pro-inflammatory cascade and increased signaling of TNF- α , and IL-6. NF- κ B is vital for regulating the survival, activation and differentiation of innate immune cells and inflammatory T cells. Hence, the foci of various nutritional research have been targeted at inhibiting NF- κ B, pro-inflammatory cytokines, and reducing CRP levels.

The foci of anti-inflammatory herbal nutraceutical research have been to reduce CRP levels in plasma and inhibit the NF- κ B pathway. Powerful anti-inflammatory herbal nutraceuticals such as curcumin, ginger, elderberry, garlic, and various other herbs have been shown to have a robust effect at inhibiting NF- κ B. Reductions in inflammatory markers such as CRP, IL-6, TNF- α , and decreased cytokine production are the major mechanisms of the herbal nutraceuticals. Herbal anti-inflammatory nutraceuticals help to increase neutrophil chemotaxis, macrophage phagocytosis, natural killer (NK) cell lytic activity and mitogen-stimulated lymphocyte proliferation.

Hence, the foci of this review will be to elucidate the molecular mechanisms of herbal nutraceuticals in combating inflammatory disease states.

Keywords: C-Reactive Protein (CRP), Interleukin 6 (IL-6), Tumor Necrosis Factor (TNF- α), Nuclear Factor (NF- κ B), Natural Killer Cell(NK).

Biography:

Navin H. Khan is the sports nutritionist, exercise physiologist, Director of Product Development and Research for Rocktomic Labs LLC, and Chief Scientific Officer for Immune Whey LLC. He has conducted over 1000 VO2 max and resting metabolic assessments. He is known for Determining client-specific nutrient and energy requirements, with consideration to specific lifestyles, physiology and medical concerns of all his clients. His research areas focus on the effect of dietary supplements on brain health and exercise performance. His passion is researching, innovating, and pushing the boundaries of human performance, sports nutrition, and exercise physiology. His career is dedicated to educating and motivating others to be optimal in their approach to naturopathic nutrition, training, and supplementation.

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