

# **Cannabinoids and Human Immunocompetence: A Comprehensive Review**

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## **Abstract**

Despite anecdotal evidence suggesting phytocannabinoids interact with the human immune system, the precise mechanisms of these interactions remain largely unknown. Even so, numerous publications have reported remarkable concentrations of endocannabinoid receptors and related proteins in various immune tissues, thus implicating the system as an integral part of immunological function. Recent clinical research offers further evidence to support endocannabinoids and related endogenous fatty acid derivatives as potent regulators of immune activity. However, the ultimate effect of these molecules binding to their associated receptors is highly contingent upon the particular type of immune cell being studied. Furthermore, specific combinations of endocannabinoids and fatty acid derivatives are demonstrated to induce distinct downstream effects. Distilling general assertions to their overall impact on human immunocompetence has remained difficult. As asserted in prior comprehensive reviews, the variable and bi-directional nature of endocannabinoids on immune activity suggests they are vital to maintaining immunological homeostasis within the human body. The nascent field of affective immunology has established compelling links between human behavior, emotional affect, inflammation, and immunocompetence. Monoamine neurotransmitters conventionally implicated in the development of affective mood disorders are also demonstratively essential as regulators of immune activity. This purported cross-talk between the central nervous and immune systems is suggested to be mediated by inflammatory markers, such as cytokines and endogenous fatty acid derivatives, thus implicating these compounds as key players in a network of small molecule messengers responsible for signaling numerous organ systems during a coordinated immune response.

## **Biography:-**

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Note:- This work is partly presented at International Webinar on Internal Medicine, March 29, 2021 as per GMT+1 Timings.