



सीएसआईआर-हिमालय जैवसंपदा प्रौद्योगिकी संस्थान

पालमपुर – 176 061 (हि.प्र.)

CSIR-Institute of Himalayan Bioresource Technology
Palampur – 176 061 (H.P.)



CSIR-IHBT invites Expression of Interest (EOI)

for

“Indigenous Synergism from Regional Tea Varieties for Immunomodulation”

Tea has good amount of bioactive constituents that imparts diverse range of biological activities including immunity modulation. A tea based product blended with three most important tea varieties from three different geoclimatic regions like Kangra tea, Munnar tea, Assam tea were developed based on their imperial combination with three different flavors and fragrances with most important functional aspect that is immunomodulation. Efficacy of the infusion of this blended tea combinations was tested for in vitro and in vivo efficacy on myeloid lineage and lymphoid lineage primary cells and established cell lines. Extensive studies like determination of ROS production and antioxidant activities, lymphocyte proliferation, determination of cytokine release by lymphocytes, lymphocyte differentiation to different T cell subtypes, macrophage activation, phagocytic index by macrophages, NO release, pro-inflammatory cytokine release were performed to establish their efficacy. Dose determination, effect on different vital organs, spleen and lymph nodes was performed followed by histopathology and immunohistochemistry. Serum levels of different inflammatory and other cytokines and chemokines were carried out in support of our claims of immunomodulation. We observed that it supports lymphocyte proliferation, subsides inflammatory cytokine release, significantly lowered IL-6 and TNF- α levels, while significantly increase IL-10 levels. Modulatory effects on T helper CD4+ and cytotoxic T cells CD8+ population indicate its role in infection associated inflammation. Proliferation in CD3+/CD4+/CD25+ population have role in regulating antigenic memory response. Significant changes in Regulatory T cells indicates role in maintaining adaptive immune response and inflammatory homeostasis.

EoI is invited from interested industries/ SMIs/ Progressive Entrepreneurs for transfer of the above stated technology.

Application should include details of company profile and marketing strategies. The selected parties shall be called for discussions. Interested parties may send their Expression of Interest, in a sealed cover superscripting “Expression of Interest” addressed to

The Director

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