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Immunomodulatory activity of Indian banyan : Validating the traditional use

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Abstract

The Indian Banyan is a large tree, bearing many aerial roots. An aqueous decoction of the fresh aerial roots of this tree has been used by traditional Ayurvedic medical practitioners to boost the immune system in various diseases. In AIDS, death occurs eventually due to the failing immune system hence new therapies directed towards augmenting the functional capacity of the immune system are the need of the hour. Studies carried out in our laboratory have indicated the aerial roots to have immunostimulant activity. The aqueous extract was found to enhance the cell mediated and antibody mediated immune responses in rats. The aqueous extract was subjected to fractionation using solvents of varying polarity. This paper reports the results of pharmacological experiments conducted to evaluate the immunomodulatory activity of the fractions generated. Immunological tests to evaluate included the in vitro lymphocyte proliferation assay using human lymphocytes and in vivo studies using rat as the animal model. Immunomodulatory activity was determined using hypersensitivity reaction assay and humoral antibody response assay. The aqueous fraction exhibited about 80% stimulation of lymphocytes at 1 µg/ml. The other fractions did not exhibit a significant stimulation of lymphocytes at the concentrations tested. The aqueous fraction was evaluated at doses ranging from 25 mg/kg to 200 mg/kg. The maximum response was observed at a dose of 50 mg/kg body weight. The aqueous fraction exhibited a significant stimulation of cell mediated and antibody mediated immunity and could prove beneficial in diseases involving suppression of the immune system like AIDS.

Biography

Dr. Tabassum Khan is currently working as faculty at SVKM's Dr. Bhanuben Nanavati college of pharmacy. She spent four years in the R&D department of Procter & Gamble post M. Pharm. She then joined department of pharmacy- IET, Rohilkhand University as a faculty followed by doctorate studies and her current position. She has many international presentations and publications to her credit. She has been awarded many grants to present papers at various international conferences. She is referee in a peer-reviewed journal and is a member of IPA, AAPS and FIP.