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Screening Efficacy of herbal formulation from Ocimum sanctum and Solanum xanthocarpum for the therapeutic management of Mycobacterium avium subspecies paratuberculosis infection in domestic livestock**Manthena Navabharatha**

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Screening Efficacy of herbal formulation from Ocimum sanctum and Solanum xanthocarpum for the therapeutic management of Mycobacterium avium subspecies paratuberculosis infection in domestic livestock: MAP is accountable for the instigation of Johne's disease in ruminants and Crohn's disease like autoimmune disorders in human beings. The potential of herbs against Mycobacterium paratuberculosis infection and their therapeutic management in infected individuals is yet to be explored. Therefore, an initiative has been taken in order to investigate anti-mycobacterial potential of a local medicinal herbs, Ocimum sanctum & Solanum xanthocarpum using in vitro studies and in-silico analysis. In-house extraction method was developed and aqueous, ethanolic and hydro-ethanolic extracts of the said plants was prepared. Metabolic characterization of the bioactive extracts was done using chromatographic and spectroscopic techniques. Chromatographic metabolic characterization included development of HPTLC fingerprints. It was useful for qualitative analysis of the prepared extracts. Quantification of the major bioactive markers using Ursolic acid, Solasodine, Solasonine and Solamargine was also achieved. Utilizing spectroscopic techniques, the total contents of phenols, flavonoids and free radical scavenging compounds were deduced. The pharmacological action of the extracts on pinocytes also unveiled their immunomodulatory potential. Anti-inflammatory potential of the extracts was also established with the help of Membrane stabilization assay. In vitro anti-mycobacterial potency post adaptation of Mycobacterium avium subspecies paratuberculosis (MAP) mother culture (in liquid medium) was evaluated using REMA assay. Based on the overall speculation, the effectiveness of Ocimum sanctum & Solanum xanthocarpum against MAP infection was determined giving a reliable hypothesis for the management of Johne's disease in ruminants and Crohn's disease like autoimmune disorders in humans.

Biography

Manthena Navabharatha has pursuing his PhD at the age of 25 years from GLA University and Post graduation studies from Kakatiya University School of Microbiology. He is the Senior Research Fellow and Project Associate of Center for Cow Science and Research, GLA University and CSIR-CCMB in Hyderabad. He has published more than 10 papers in reputed journals.