



Natural Products Chemistry

Overview

Indian Institute of Integrative Medicine is a World class Institute in the area of Natural Products with expertise in all the relevant fields needed for drug development especially Herbal drugs based on traditional systems of healthcare and validated as per modern systems. It can play a vital role in promoting ASU medicines for making them acceptable world over and also in development of new drugs /new chemical entities. Varieties with desired chemoprofiles and for production of novel phytochemicals.

Missions and goals

- Isolation of new bioactive molecules from natural sources
- Development of NCEs by structure modification of natural products/ synthesis.
- Development of standardized herbal products as new drug candidates or PHP's (Positive Health Promoters).
- Creation of enriched repository of chemical marker compounds by isolating a large number of molecules to be used for chemoprofiling of the medicinal plants/formulations containing them.
- Development of SOPs for standardization of single/polyherbal formulations by using existing /newly

developed protocols (HPTLC, HPLC, GLC ,LC-NMR-MS).

- Human resource development in the area of natural products to bring out quality research

Area of research

- Chemistry of Natural products involving isolation and structure elucidation of bioactive molecules from plant sources.
- R & D work on development of new drugs/formulations/new chemical entities.
- Development of processes for isolation/synthesis of drugs and drug intermediates
- Studies on structure activity relationship/molecular modeling of bioactive molecules.
- Development of Novel Target Based Anticancer Therapeutics
- Development of Standard Operation Procedures / marker based standardization methods for medicinal plants/ formulations using modern techniques like HPTLC/HPLC/LC-NMR-MS, GLC etc.

Current Research Projects

- Nurturing a new Pan-CSIR drug pipe line high intensity preclinical, clinical studies on lead candidates (BSC-0205)
- Medicinal chemistry for Stem Cell Biology and Regenerative Medicine (BSC-0108)
- Bioprospection and plant resources of the Himalayan & Western ghats (BSC-0106)
- Domestication introduction and cultivation of economic important plants (BSC-0110)
- Isolation and characterization of safer and potent antiviral components from

new potential medicinal plants to effectively treat and control infections of Human Herpes Virus -1,2 & 3 by in vitro and in vivo studies. (GAP-1137)

- Creation of national repository of pure natural products (MLP-4013)
- Natural Product Chemistry and Pharmacology of Medicinal Plants (MLP-4012)

People

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