PLAN OF WORK

- Review of literature
- Selection of antidiabetic & antioxidant potential plant bioflavonoid isolates
- Selection of polymers
- Preformulation study of drug and polymer
- Preparation & optimization of polymeric nanoparticles by suitable method
- Characterization of prepared nanoparticles by suitable methods
- In-vitro and in-vivo evaluation of nanoparticles containing antidiabetic and antioxidant potential bioconstituents or bioflavonoid isolates
- Evaluation of stability of the prepared formulation as per ICH guidelines

METHODOLOGY

Review of literature

Extensively information’s will be obtained from journals, patents and other related articles. Guidelines pertaining to the method like ICH (International Conference on Harmonization), WHO (World Health Organization) etc will be utilized.

Selection of antidiabetic & antioxidant potential plant bioflavonoid isolates

The selection of bioflavonoid having antidiabetic and antioxidant potential activity will be done. Isolates are planned to procure from standard source of standard purity to establish the activity of pure single component.

Selection of polymers

Suitable biodegradable carrier system will be selected for loading of the selected component with the intention to increase the activity of the constituent.

Preformulation of drug and polymer

The selected drug and polymers will be subjected to preformulation studies to confirm the possible interaction between the drug and polymer.
Preparation and optimization of polymeric nanoparticles

It is planned to select and prepare the nanoparticles containing plant bioflavonoid with the suitable biodegradable carriers. Suitable optimization methods will be adopted by factorial design by fixing various parameters.

Characterization of prepared nanoparticles by various methods

It is planned to adopt suitable method to characterize the formulation by various methods to assess particles size, surface morphology and zeta potential of the formulation.

In-vitro and in-vivo evaluation of nanoparticles containing antidiabetic and antioxidant potential bioconstituents or bioflavonoid isolates

Both invitro and invivo evaluation of the prepared nanoparticles performed for antidiabetic and antioxidant activity. Suitable methods will be utilized to study the formulation.

Evaluation of stability of the prepared formulation as per ICH guidelines

As per ICH guidelines the formulation will be subjected for stability testing. Samples will be withdrawn from various intervals to assess the content uniformity and stability.