WORK PLAN AND METHODOLOGY

1. Literature survey-
   Literature survey performed through different reputed journal, Codex, IP, B.P., etc

2. Selection of drug and excipients
   Antipsoriatic drug Dithranol IP is selected with different sorbitan ester, cholesterol, phospholipids etc.

3. Preformulation study
   Preformulation will perform before preparation of proniosomes transdermal gel of dithranol IP
   ➢ Identification of the drug
     a) Appearance  b) Melting range determination
     ➢ Thin layer chromatography
     ➢ Particle size determination
     ➢ Analytical method of determination for Dithranol IP  Pure drug
       a) UV Spectroscopy b) Determination of λ max c) Preparation of Standard Curve  d) HPLC (High Performance Liquid Chromatography)
     ➢ Fourier transforms infrared (FTIR) spectroscopy
     ➢ DSC (Differential Scanning Calorimetry)
     ➢ Solubility studies
     ➢ Loss on drying (LOD)
     ➢ Partition coefficient

4. Preparation and optimization of Dithranol loaded Proniosomes

5. Evaluation of optimized formulation with key parameter

6. Characterization of drug loaded Proniosomes

Characterization of drug will perform as in different journals and IP standards
  ➢ Drug content
  ➢ Particle size analysis
7. **Preparation of Topical gel**

Preparation of topical gel will be carried out using Nonionic surfactant (Span - 40, 60, 80) Polymer, Cholesterol, etc. by Phase separation coacervation technique. (Gupta K.S, et al., 2010),

8. **Evaluation of the Topical gel**

Different parameter evaluated as per Indian pharmacopoeia (IP) and other standard pharmacopoeias.

- Appearance
- pH
- Spreadability
- Rheological characterization
- Viscosity
- In-vitro drug diffusion study
- Ex-vivo studies
- Deposition study

9. **Stability testing of optimized formulation as per ICH guidelines**

Stability testing will perform through different standard parameter as prescribed in Indian pharmacopoeia (IP) and ICH guidelines