WORK PLAN AND METHODOLOGY

1. Literature survey: Journals, books, Chemical index, Pharmaceutical codex, Clinical abstracts.
2. Collection and authentication of plant and its parts.
3. Drying and powdering of the collected plant materials (seeds and leaf).
4. Standardization of powder sample of collected parts.
5. Selection of solvents for extraction: Based on polarity
6. Concentration, drying and preservation of extracts.

EXTRACTION
I. Hydroalcoholic (Alcohol: Water)
   A. Leaves
   B. Seeds
II. Aqueous

7. EVALUATION OF EXTRACTS
   a. Determination of percentage yield.
   b. Standardization/physical evaluation of extracts.
   c. Phytochemical screening of extracts.

8. PHARMACOLOGICAL SCREENING
   a. Institutional Animal ethical Committee approval.
   b. Acute toxicity studies and determination of LD50 and calculation of dose (24 Hr)
   c. Screening of extracts for antidiabetic activity.
      • Oral glucose tolerance test.
      • Hypolipidemic activity in diabetic rats.
      • In-vivo and in-vitro antioxidant activity in diabetic rats.
      • Screening of extracts for hepatoprotective activity in diabetic rats.
   d. Screening of effect for antimicrobial activity on selected microbes
9. EXPERIMENTAL DESIGN FOR ANTIDIABETIC ACTIVITIES (14 Days Protocol, 6 animals in each group)

1. Group -1 (Vehicle treated )
2. Group – 2 (STZ )
3. Group-3 STZ + TLHAE (Conc X1)
4. Group- 4 STZ +TLHAE(Conc X2)
5. Group-5 STZ + TLAQE(Conc X1)
6. Group-6 STZ+ TLAQE(Conc X2)
7. Group-7 STZ +TSHAE (ConcX1)
8. Group-8 STZ + TSHAE (Conc X2)
9. Group-9 STZ+ TSAQE (ConcX1)
10. Group-10 STZ+ TSAQE (Conc X2)
11. Group-11 STZ + Standard drug (Conc. X1)
12. Group-12 STZ +Standard (Conc. X2)

10. PARAMETERS TO BE STUDIED
   a. Physical Parameters
      • Body Wt., water and food intake
   b. Hematological parameters
      • Blood glucose level at 0 days, 7 days & 14 days of treatment
      • Lipid profile: LDL, VLDL, TG, & HDL
      • Liver glycogen and Triacyl glycerol

11. HEPATOPROTECTIVE ACTIVITIES
    • SGOT ,SGPT , Serum Alkaline phosphates ,Serum billirubin (At 14 t day of experiment

12. DETERMINATION OF ANTI-OXIDANT ACTIVITY
    • In Vivo
    • In vitro anti oxidant activity

13. HISTO PATHOLOGICAL STUDIES OF LIVER OF DIABETIC RATS

14. STUDIES OF ANTI MICROBIAL ACTIVITIES ON SELECTED MICROBES