CHAPTER 2

AIMS & OBJECTIVES
1. To study the anti-hyperglycemic / antidiabetic effect of aqueous extract of fruit of *Withania coagulans* in normal and diabetic animals.

2. To isolate, purify and identify active anti-hyperglycemic components from water extract.

3. To study the mechanism of action of hypoglycemic components form water extract of fruit of *Withania coagulans* in normal and diabetic animals by studying it’s effect on:
   a. Levels of serum insulin, C-peptide and glycosylated hemoglobin
   b. Release of insulin from pancreatic β cells and autophorylation of insulin receptors.
   c. Regulatory enzymes of carbohydrate and lipid metabolism viz – glucokinase, glucose-6-phosphatase, phosphofructokinase, HMG CoA reductase and acetyl CoA carboxylase
   d. Tissue constituents like glycogen, lipid and proteins in liver and muscles.

4. To carry out toxicity studies in order to establish the safety of this compound.