

## **2.3. Preclinical studies**

### **2.3.1. Animals**

Adult male Sprague-Dawley laboratory rats weighing around 200-250 gm were supplied from University of Petra animal house. The animals were kept in air-conditioned environment with temperature of (20-25 °C) and 55%-65% relative humidity. A 12/12 h light and dark schedule was maintained in the animal house and animals were acclimatized to the laboratory conditions.

The experimental protocols were carried out in accordance with the Code of Ethics of the World Medical Association.

### **2.3.2. Induction of diabetes in rats using streptozotocin (STZ)**

Rats were fasted for 12 h before diabetes was induced. The animals were injected by STZ at the dose of 100 mg/kg of the body weight intraperitoneal. STZ induces diabetes within 2 days by destroying the beta cells. STZ was freshly dissolved in 0.1 M citrate buffer (pH 4.5). Diabetes was monitored by measuring glucose concentration in blood samples obtained from the tail vein using a blood glucose meter. Only rats with a basal blood glucose level around (220 mg/dL) were considered as diabetic for our studies.

Diabetic animals and normal control groups were kept in metabolic cages individually, separately, under feeding and metabolism control.