DESIGN OF INVESTIGATION
The following experiments were designed to study the pharmacological actions of the methanolic fraction of *M. cordata* root extract.

**ANTI-INFLAMMATORY EFFECT**

On initial screening of the pharmacological actions of the *M. cordata* root extract it was found that it possessed significant anti-inflammatory activity. Accordingly, detailed investigation was made in this respect which composed of the following test protocols.

1. **Actions against oedema**
   - Carrageenin-induced paw oedema by administration of *M. cordata* root extract through i.p. and oral route.
   - Study of time course of carrageenin-induced paw oedema.
   - Effect on adrenalectomised rats.
   - Local effect on carrageenin-oedema.
   - Effect on paw oedema induced by different mediators: Histamine, Serotonin, Bradykinin, Prostaglandin E2, Hyaluronidase.
   - Turpentine-induced paw oedema.

2. **Action against pyrexia**
   - Yeast-induced pyrexia.
3. Action against pain
   - Acetic acid-induced writhing

4. Action against peritoneal inflammation
   - Inflammatory exudation (Protein exudation).
   - Peritoneal capillary permeability (Dye-leakage).

5. Action against pleural inflammation
   - Leucocyte migration.

6. Action against Granuloma formation
   - Cotton pellet-induced granuloma
   - Carrageenin-induced granuloma

7. Action on Arthritis
   - Formaldehyde-induced arthritis.
   - Freund's adjuvant-induced arthritis.

8. Action on experimental gout
   - Sodium urate-induced oedema.

   - Estimation of SGOT, SGPT and ATPase.
   - Estimation of Hydroxyproline content of the granulomatous tissue.

10. Preliminary attempts towards isolation and identification (at least the qualitative nature) of the active substance(s) responsible for anti-inflammatory property of the extract.
    - Carrageenin-induced paw oedema.
- Other physico-chemical studies (Chemical tests, UV and IR Studies) of the active substance.

GASTRO-INTESTINAL ULCERS

Studies on experimental ulcer models were performed with the following experiments.

1. Preventive tests
   - Acetyl salicylic acid-induced gastric lesions
   - Serotonin-induced gastric lesions
   - Steroid-induced gastric ulcer
   - Indomethacin-induced gastric ulcer
   - Histamine-induced duodenal lesions.

2. Healing test
   - Acetic acid-induced ulcer.

STUDIES ON OTHER PHARMACOLOGICAL ACTIONS

1. Acute toxicity
   - Mortality rate of animals
   - Other toxic manifestations.

2. General Pharmacology
   i) Effect on blood pressure
      - Cat blood pressure
   ii) Effect on Smooth muscle
       - Guinea pig ileum
       - Rat uterus.
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(iii) Effect on skeletal muscle
- Rat phrenic nerve-diaphragm preparation.

3. Effect on Central nervous system
- Behavioural change
- Spontaneous motility
- Pentobarbitone-induced sleeping time
- Normal body temperature
- Amphetamine toxicity test
- Conditioned avoidance response (CAR) and Secondary conditioned response (SCR)
- Analgesic activity
  i) Tail clip method
  ii) Caudal immersion
- Anticonvulsant activity
  i) Pentylene tetraoxide-induced convulsion
  ii) Strychnine induced convulsion
- Exploratory behaviour pattern
  i) Head dip test
  ii) Y-maze test
  iii) Evasion test
- Muscle relaxant activity
  i) Rotating rod test
  ii) Traction test
  iii) Chimney test
  iv) Inclined screen test
- Aggressive behaviour by electroshock-induced fighting.