Research Program: Ocular Surface Inflammatory Diseases

**Vertical Research Lines:**

1. Ocular chronic allergic inflammation
   - Role of epithelial cells in those processes
   - Neurogenic inflammation
   - New anti-inflammatory therapies

2. Dry Eye Syndrome (as a paradigm of inflammatory complex disease)
   - Role of epithelial cells in those processes
   - Neurogenic inflammation
   - Epidemiology studies
   - Ocular mucins (identification, alteration, regulation)
   - Environmental chamber for controlled adverse environment exposure

3. Tissue Engineering to reconstruct the diseased ocular surface
   - Transplantation of stem cells and biopolymers

4. Nanomedicine to treat ocular surface inflammatory diseases
   - Development of drug delivery systems based on mucoadhesive strategies
   - Gene therapy and gene silencing as strategies to develop new therapies

**Horizontal Research Lines to provide support for the vertical ones:**

5. Development of laboratory tools to study the physiology and the physiopathology of the ocular surface

6. Identification of ocular inflammation biomarkers