

## TITLE: OCULAR NEUROBIOLOGY

### DESCRIPTION OF THE TECHNOLOGY

This technological capacity consists in the study of the sensory innervation of the surface of the eye, responsible for ensuring a healthy state of the eye tissues and also generating the sensations of pain, irritation and dry eyes.

It is based on the study of functional and morphological changes of the nerves of the surface of the eye in pathological situations.

It also employs non-invasive study techniques such as thermographic analysis of temperature changes in the surface of the eye and the recording of EMG activity during blinking, both in animals and in humans.

This ability allows the search of new molecules that increase the regeneration of tissues and nerves after accidental or surgical corneal injury, and in diseases that damage peripheral nerves, such as diabetes.

It also seeks to return altered nerve activity and corneal sensitivity to normal in these pathologies, using pharmacological and optopharmacological tools.

### MARKET APPLICATION SECTORS

This technology is of interest for pharmaceutical or biotechnology companies dedicated to the treatment of eye diseases and for CRO companies specialized in ocular research, especially for preclinical studies and proof of concept.

### TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

The main benefits of this capacity derive from the possibility of developing specific treatments that help to combat eye pain and dryness that occur in a high percentage of elderly people and in patients with diseases as common as diabetes. In addition, it helps regenerate fully functional corneal tissues using even artificial materials for transplants.

### CURRENT STATE OF DEVELOPMENT

This group is currently developing the following lines of action:

- Electrophysiological characterization of the activity of the corneal innervation and its modification during the regenerative and inflammatory processes of the eye
- Morpho-functional study of sensitivity and corneal trophic status after surgery, including corneal transplants

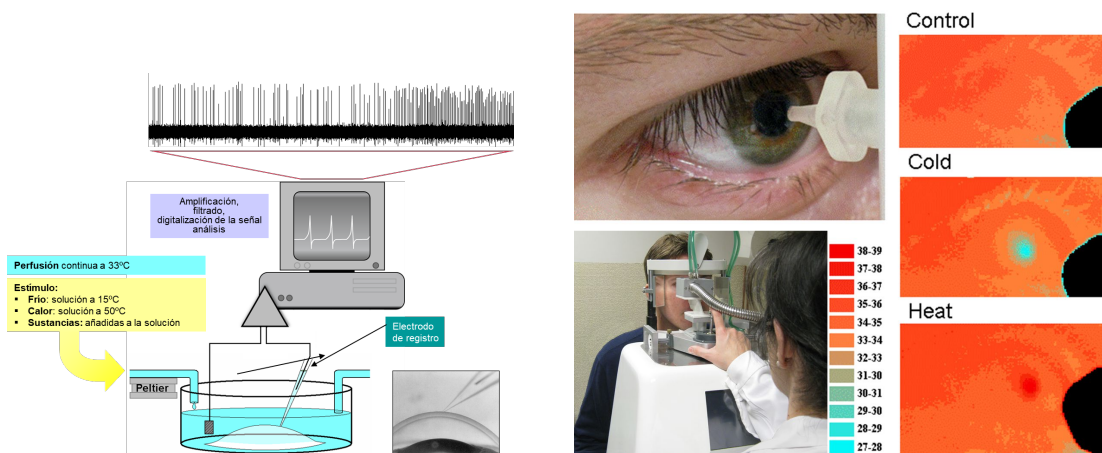
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### COLLABORATION SOUGHT

Collaborators are sought to develop projects, in different geographical areas, incorporating new technologies that allow optimization of results.

Services can be provided to all those companies and entities that require these capabilities.

### RELATED IMAGES



### CONTACT

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