

# TITLE: Mesenchymal cells for use in the prophylactic and/or therapeutic treatment of Meibomian Gland Dysfunction

## FIELD OF INTEREST

Medical field.

## CLINICAL NEED

The Meibomian glands are sebaceous glands that are located in the eyelids (upper and lower) and produce a secretion composed of different substances, among which there are many diverse lipids such as phospholipids, triglycerides and free sterols. This removal forms part of the tear film and prevents its evaporation.

MGD is a chronic disease of the Meibomian glands, which is usually characterized by the obstruction of the end of the duct that carries the reproduction produced by the glands (called the meibum) to the ocular surface, which prevents the glandular secretion from reaching the eye to the ocular surface. The dysfunction could be that the amount of production produced is abnormal (too little or too much meibum is produced). The dysfunction could also be related to the quality of the meibum produced. MGD can cause evaporative ocular sequelae, blepharitis, chalazion, eyelid not closing during sleep, and meibomian gland atrophy.

GDM causes the glands to become clogged with thick, cloudy to yellow, more opaque, and viscous, oily and waxy secretions, which is a change from the normal clear secretions of the glands. In addition to causing ocular sequelae, obstructions can be degraded by bacterial lipases, leading to the formation of free fatty acids, which irritate the eyes and sometimes cause punctate keratopathy.

This disease can be classified based on the secretion of the glands. MGD can be low secreting and high secreting. Low secretion is the most common form and is classified as hyposecretory and obstructive.

Although there are some current treatments for MGD, there is also an unmet medical need to find alternative treatments that are effective and show no side effects.

## DESCRIPTION OF THE INVENTION

The invention relates to a substantially pure population of mesenchymal stem cells for use in the prophylactic and/or therapeutic treatment of Meibomian Gland Dysfunction.

The mesenchymal stem cells, mainly those derived from adipose tissue and used allogeneically, are a safe and feasible therapy to treat MGD. Specifically, it

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shows that patients with MGD-related disease show clear improvements in ocular pain and epithelial defect, visual acuity, and corneal opacity.

#### **ADVANTAGES**

Visual improvement.  
No inflammatory activity.  
No use for immunosuppressive treatment.

#### **TECHNOLOGY KEYWORDS**

Meibomian gland, visual, treatment.

#### **IPR STATUS**

Patent application number: P202230503  
Applicants: UAM, FIIS-FJD.

#### **TYPE AND ROLE OF PARTNER**

Looking for commercial partners interested in licensing.

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