

Use of Dioleoylphosphatidylglycerol (DOPG) to Accelerate Corneal Wound Healing

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Technology description

Current State of the Art:

Corneal abrasions are typically allowed to self heal despite the discomfort and potential risk of infection. Lubricants, antibiotics and in severe cases eye patches are provided in an attempt to avoid contact with the eye as patients experience pain and discomfort while waiting for the long process of healing. These methods are also employed for post-operative procedures, again to alleviate irritation and pain during the healing process.

Lubricants and eye patches are provided over the counter (OTC) while antibiotics require a prescription. Industry leaders in providing eye care products include Bausch and Lomb, Alcon (Novartis) and Allergan.

Artificial tears and lubricants in eye care represent a flooded market of OTC products that are only used for management during natural healing processes. Of the few products in development, those that offer acceleration or assisted wound healing in the eye include the medical device Prokera®, an amniotically derived biomaterial as a “bandage” that promotes wound healing and Nexagen which prevents inflammation allowing for natural healing process to progress quicker.

Disadvantages with the Current Art:

Allowing the eye to heal on its own can result in infections and further damage from patients rubbing the eye due to the pain and/or irritation. Providing a quicker method of healing by speeding up the healing process is necessary.

Advantages

Provided in this invention is a therapeutic composition and method of use to increase the healing process in the eye, specifically in the corneal epithelium.

- Dioleoylphosphatidylglycerol (DOPG) based compound in an ocular solution
- Increased epithelial cell proliferation
- Increased epithelial cell migration
- Shortened the healing process in corneal epithelium

Institution

[Augusta University](#)

Inventors

[Wendy Bollag](#)

Professor

Physiology

[Ding Xie](#)

Post-Doc

Physiology

联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com