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विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

BITS Pilani
TECHNOLOGY
ENABLING
CENTRE
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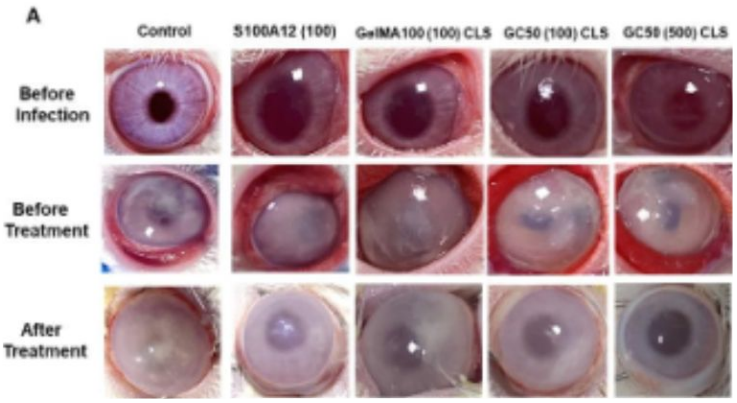
PENDING

(IN202311005942) Muco-adhesive, self-dissolving formulation to treat deep corneal tissue diseases and method of preparing the same



NEED

Deep corneal tissue diseases often require complex treatments with low bioavailability. Existing therapies lack targeted delivery systems, resulting in prolonged healing times and low success rates. A new, self-dissolving contact lens addresses this challenge.

MARKET ANALYSIS

The global ophthalmic drugs market is expected to grow at a CAGR of 5.4%, projected to reach $44.5 billion by 2033. Drivers include the rise in eye disorders and technological advancements in drug delivery systems.

TECHNOLOGY OVERVIEW

This technology introduces a muco-adhesive, self-dissolving 3D bio-printed contact lens designed for deep corneal tissue diseases. Made from Gelatin Methacryloyl (GelMA) and Chitosan Methacryloyl (ChiMA), it ensures targeted, sustained drug delivery to the affected tissue.

Target Industries

Pharmaceuticals, Healthcare, Medical Devices. , Ophthalmic pharmaceutical manufacturers, medical device companies specializing in drug delivery systems, healthcare providers focusing on corneal treatments and innovative therapy options.

TECHNOLOGY KEY FEATURES

Self-dissolving, muco-adhesive 3D bio-printed lens, high drug delivery efficiency, use of GelMA and ChiMA for targeted action, cross-linked for enhanced stability, photopolymerization for precise control, treats deep corneal tissue diseases.

AT A GLANCE

- SDG 3 (Good Health and Well-Being), SDG 9 (Industry, Innovation, and Infrastructure)

Read more here

Technology is available for licensing/ co-development.

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