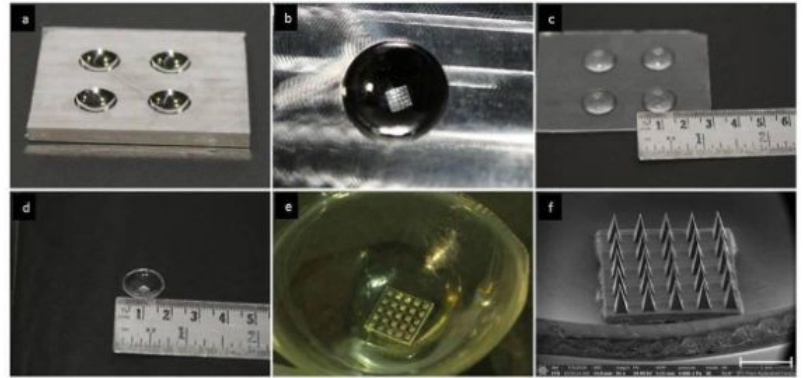




GRANTED

(IN497600)

## An ocular drug delivery device



## NEED

Over 90% of drug content in eye drops is lost due to blinking, tear drainage, and low corneal absorption. This inefficiency causes poor treatment, repeated dosing, and risk of progression in glaucoma and infections. But what if corneal drug delivery became painless—and nearly 100% efficient?

## TECHNOLOGY OVERVIEW

This technology introduces a polymer-based ocular insert with drug-loaded microprojections on a concave surface that matches the eye. These microstructures gently penetrate the epithelium, enabling direct, sustained drug release without discomfort or invasive procedures.

## TECHNOLOGY KEY FEATURES

Drug-loaded microprojections ( $1\text{--}500/\text{cm}^2$ ); tip radius:  $0.5\text{--}50\text{ }\mu\text{m}$ ; depth:  $10\text{--}1000\text{ }\mu\text{m}$ ; pressure:  $0.1\text{--}5\text{ N}$ ; made from biocompatible polymers; supports antifungals, beta-blockers, and anti-inflammatories; enables safe, targeted delivery through epithelium.

[Read more here](#)

## MARKET ANALYSIS

Global ocular drug delivery market projected to reach \$41.8B by 2033 at 7.3% CAGR; Indian ophthalmic market at ₹6,500 Cr with 8.4% CAGR. Demand driven by chronic eye diseases, aging population, and need for precise drug targeting. [Source: IMARC, Market Research Future 2024]

## Target Industries

Ocular Drug Manufacturing, MedTech Device Engineering, Clinical Drug Testing, Drug delivery platform developers, ophthalmic device integrators, preclinical ocular testing labs.

## AT A GLANCE

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

Technology is available for licensing/ co-development.

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