

**Docket #:** S24-443

# Novel compounds for tissue clearing

Stanford researchers have developed innovative ophthalmic compounds that temporarily or permanently clear opacities in ocular tissues such as the cornea, lens, and sclera. This technology addresses the critical unmet need for non-surgical treatments for corneal blindness and cataracts.

Unlike traditional methods that use toxic solvents or require tissue removal, the clearing compounds—including biocompatible agents such as vitamins, amino acids, or peptides—modulate the refractive index of existing ocular tissue, improving optical transmission in otherwise turbid biological tissues.

The compounds used are minimally toxic, water-soluble, and safe for topical administration. They can be applied through various methods, including eye drops, injections or therapeutic contact lenses, making the process minimally invasive and suitable for live subjects.

**Stage of Development:** Proof of concept - *ex vivo* rabbit, porcine, and human ocular tissue data

## Applications

- Non-surgical treatment of corneal scars and cataracts
- Enhanced visualization for retinal diagnostics and surgery
- Trans-scleral imaging of choroidal structures
- Prevention of post-surgical capsular opacities

## Advantages

- First non-surgical alternative for cataracts or corneal scars
- Tissue preservation compared to hydrogel replacement therapies

- Convenient administration through various patient-friendly methods with tunable duration
- Potential for at-home use

## **Innovators**

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