

EyeRx Research, Inc.

**Creating Innovative New Technologies
to Prevent and Treat Blindness**

**An Overview of Lacritin Treatment
for Dry Eye**



EyeRx Research Inc.

- is a Virginia corporation founded in 1999 by two Ophthalmologists, and two Pharmacologists, all faculty at the Eastern Virginia Medical School.
- is dedicated to developing and bringing to the commercial marketplace products that will aid vision and prevent blindness.



The Team

- EyeRx Research, Inc., Norfolk, VA
- T.R. Lee Center for Ocular Pharmacology, Eastern Virginia Medical School, Norfolk, VA
- Dr. Gordon Laurie, University of Virginia, Charlottesville, VA
- Dr. Bob McKown, James Madison University, Harrisonburg, VA
- Virginia Eye Consultants, Norfolk, VA
- Walter Reed Army Medical Center, DC



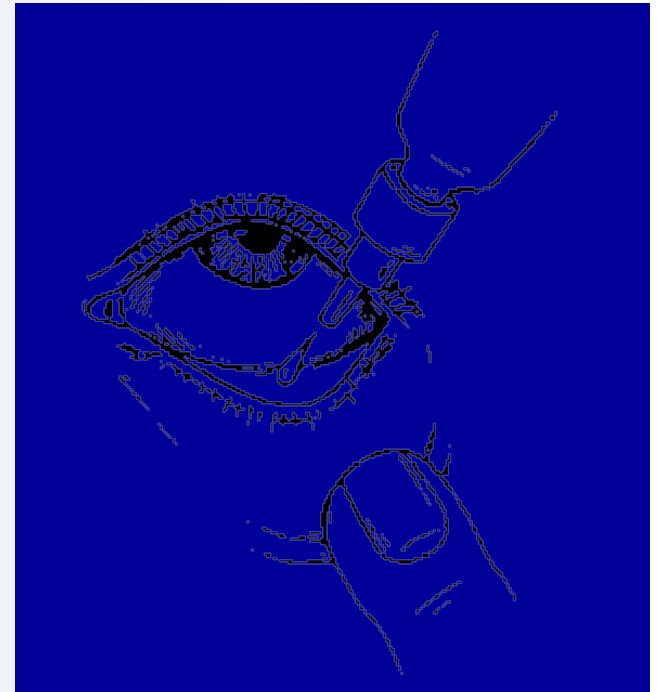
Introduction

- Lacritin is a naturally occurring protein that stimulates tear production
- Dry eye is an extremely common, under-reported, inadequately treated ocular affliction
- The pathology of dry eye includes a number of components, including inflammation & hyposecretion
- Current therapies are generally palliative, or limited by duration of onset & irritation like Restasis™
- The expanding dry eye market is open to innovative, effective topical products



The Dry Eye Market

- Dry eye market is enormous and growing
- Traditional patients:
 - Peri-menopausal females
 - Systemic medications
 - Auto-immune disease
 - Contact lens users
- Influx of younger dry eye patients due to PRK, LASIK & plastic surgery



The Competition

- Secretagogues
 - Diquafosol, Inspire
 - I5(S)-HETE, Alcon
- Anti-inflammatory
 - Restasis™ (cyclosporine), Allergan
 - Cyclosporine imitators (Novagali & Sirion)
 - Lotemax (steroid), Baush & Lomb
 - Topical Testosterone (androgen), Allergan
 - Rimexolone (steroid), Alcon



Why is a Lacritin Product Superior?

- Unique as it both increases secretion and decreases inflammation
- A naturally occurring ocular protein that is easily and safely produced
- A specific and selective MOA that limits systemic effects and yields an excellent tolerability profile
- Increases tear production and may renew lacrimal tissue
- Decreases risk of bacterial infection
- IP is extensive and patented



Topical Administration of Lacritin

- Lacritin can be administered as an eye drop
- Lacritin vehicles can be modified to increase product stability and ocular residence time

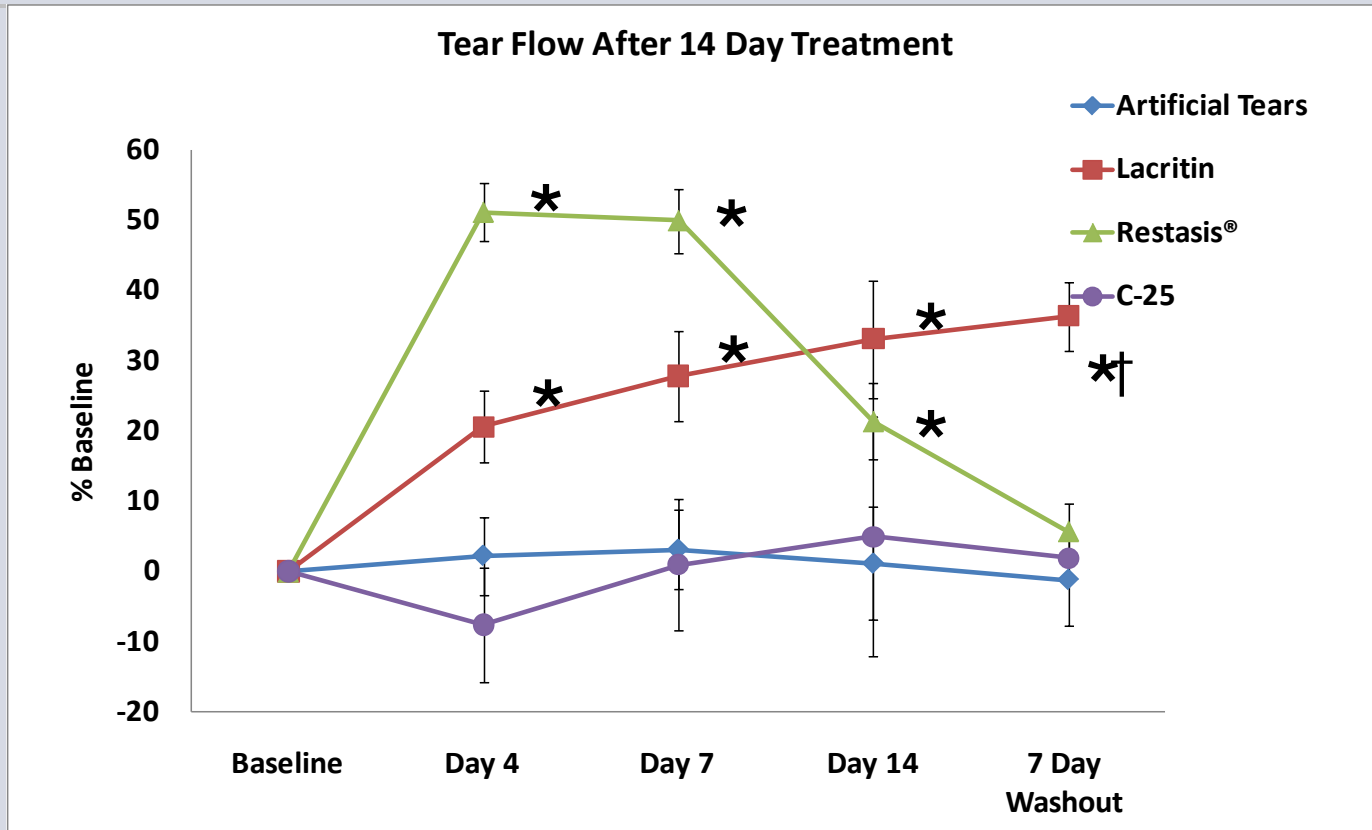


Restasis® versus Lacritin in Normal Rabbit Eye Model

- Lacritin (10 µg/mL), C-25 (10 µg/mL), Refresh Tears®, Restasis® (0.05%) were administered three times a day for 2 weeks
- lacritin response is evident 1 wk after termination of treatment
- C-25 is an inactive version of lacritin and may actually have antagonist effects as it ↓ tear flow
- (results shown on next page)



Restasis versus Lacritin in Normal Rabbit Eye Model



* Significantly greater tear flow than baseline ($p < 0.01$, $n = 6$)

† Significantly greater tear flow than Restasis® or C-25 ($p < 0.01$, $n = 6$)



Lacritin: An Outstanding Candidate for Topical Dry Eye Therapy

- Lacritin is a natural human protein with unique properties
- Recombinant lacritin on the ocular surface may:
 - Restore natural tear film chemistry in a lasting manner
 - Reverse dysfunctional tear syndrome imbalances
 - Disrupt self-perpetuating inflammatory processes
 - Exhibit antimicrobial properties
 - Exhibit mitogenic or growth factor activity
- Lacritin, as a therapeutic agent, may be aided by:
 - Nanomolar potency
 - Small molecular size
 - Ocular surface binding affinity
 - Stability



Commercialization Plan

- EyeRx Research plans to commercialize a dry eye treatment by sublicensing IP rights to a leading ocular pharmaceutical firm that will aggressively pursue development, FDA approval, and product launch.
- EyeRx and its team of original researchers wish to continue to fully support product development and approval efforts under subcontract to our pharmaceutical partner.



Partnering

- For further exploration of how we can collaborate to bring to market the leading dry eye treatment, contact:

EyeRx Research, Inc.

Attention: Paul Williams

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