

Retigenyx[®]

Reprogramming vision



RETINAL
ORGANOIDS



RPE
CULTURES



RETINAL
GANGLION CELLS

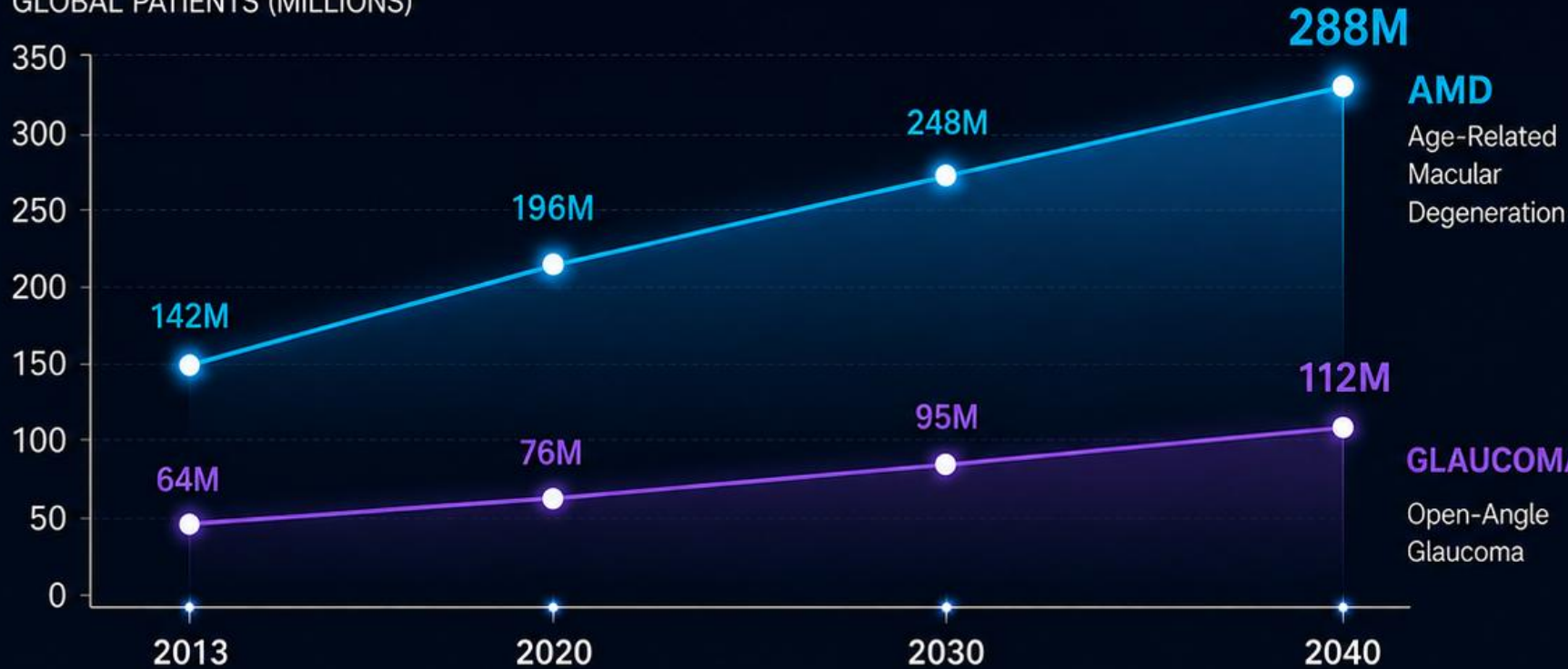


ADVANCED RNA
THERAPEUTICS
PLATFORM

THE GLOBAL BURDEN OF BLINDNESS IS RISING

Millions more patients by 2040. A massive and growing unmet need.

GLOBAL PATIENTS (MILLIONS)



THE GROWING IMPACT

2013 → 2040



AMD

196M
TODAY (2020)

288M
BY 2040

↑ 47%
INCREASE



GLAUCOMA

76M
TODAY (2020)

112M
BY 2040

↑ 47%
INCREASE










Sources: Wong WL, et al. Lancet Global Health. 2014;2:e106-116. Tham YC, et al. Ophthalmology. 2014;121(11):2081-2090.









There are few current therapies available and they can only slow degeneration.

PIPELINE: BUILDING A VERTICALLY INTEGRATED RETINAL MEDICINE COMPANY

From commercial products to transformative RNA therapeutics

RETINAL CELL LINES (COMMERCIAL PRODUCTS)	DISCOVERY	VALIDATION	CELL BANKING	COMMERCIALIZATION	VALUE DRIVER
 Retinal Organoids (3D) Human iPSC-derived organoids & cell culture products					 Near-term revenue High margin
 RPE Cultures (2D) iPSC-derived RPE cells for research & screening					 Broad market High reproducibility
 RGC Cultures (2D) iPSC-derived RGCs for research & disease modeling					 Neurodegeneration modeling platform

RNA THERAPEUTICS (THERAPEUTIC PIPELINE)	DISCOVERY	SCREENING / VALIDATION	LEAD OPTIMIZATION	IND-ENABLING STUDIES	CLINICAL STUDIES	VALUE DRIVER
 TF Reprogramming Therapeutic Retinal degeneration (e.g., AMD, GA, RP)						 Regenerative disease modification potential
 RTGX-112 Wet AMD Program						 Long-acting, multi-target RNA therapeutics
 Additional RNA Programs Dry AMD, Diabetic Retinopathy, Other Retinal Diseases						 Expandable pipeline across retinal diseases



MULTIPLE NEAR-TERM REVENUE STREAMS

Commercial products fund the pipeline



AI-DRIVEN DISCOVERY ENGINE

Proprietary algorithms identify best TFs



ADVANCED RNA PLATFORM

Multi-valent, long-acting therapeutics







TRANSFORMATIVE VISION

Regenerating retinal cells and restoring sight

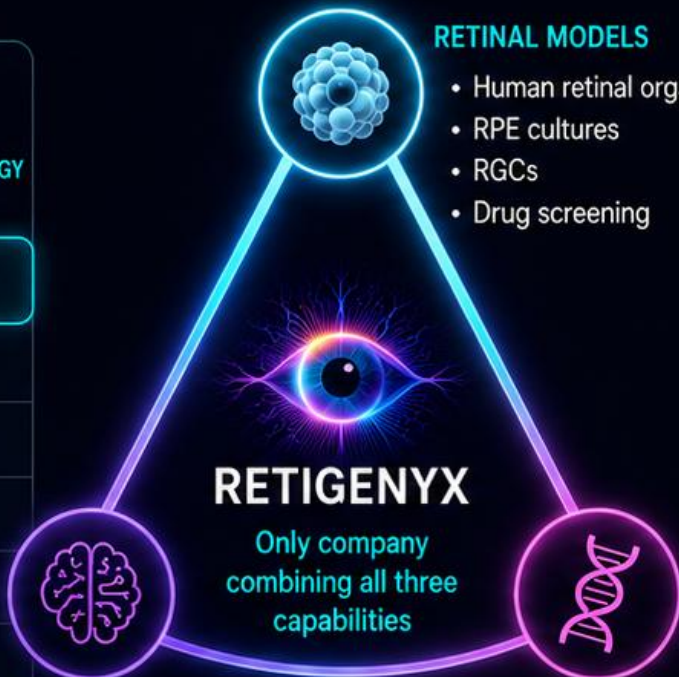
WHY RETIGENYX?

The only company integrating **retinal models**, **AI-driven reprogramming**, and **RNA therapeutics** into a single **ophthalmology platform**.

COMPETITIVE LANDSCAPE

	 RETINAL MODELS	 REPROGRAMMING	 RNA THERAPEUTICS	 OPHTHALMOLOGY FOCUS
Retigenyx	✓	✓	✓	✓
jCyte	✗	⓪	✗	✓
BlueRock	✗	✓	✗	✗
Mogrify	✗	✓	✗	✗
Ocugen	✗	✗	✗	✓
Nanoscope	✗	✗	✗	✓
4DMT	✗	✗	✗	✓
Alnylam	✗	✗	⓪	✗

No company today combines all three capabilities in an **ophthalmology-focused** platform.



RETINAL MODELS

- Human retinal organoids
- RPE cultures
- RGCs
- Drug screening

AI-DRIVEN REPROGRAMMING

- TF discovery engine
- Human organoid screening
- Müller glia reprogramming
- Proprietary IP

RNA THERAPEUTICS

- Multi-valent siRNA
- Regenerative RNA
- Long-acting therapies
- Disease-modifying medicines

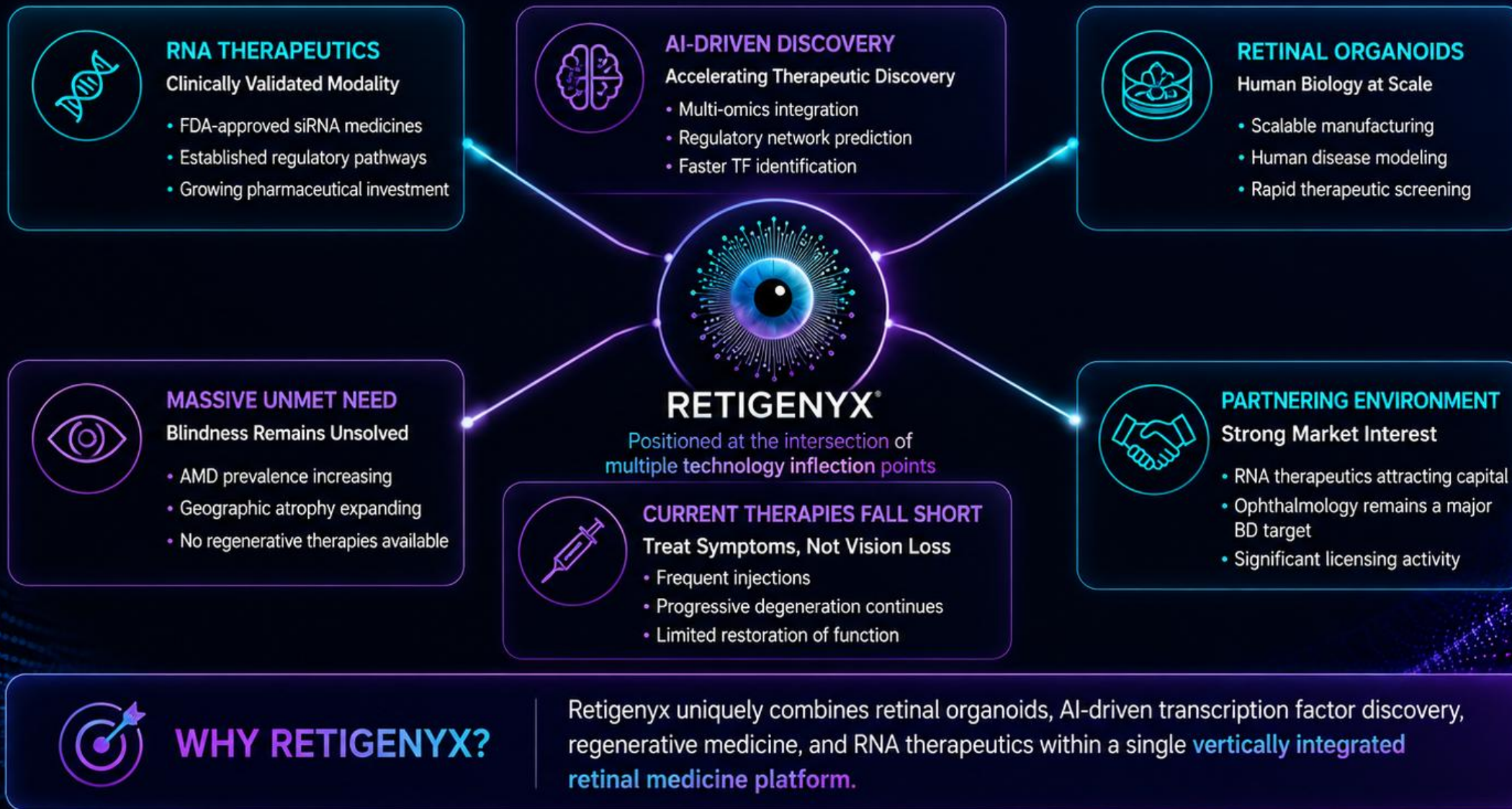
WHY NOW?

-  RNA medicines clinically validated
-  AI dramatically accelerates biological discovery
-  Human retinal organoids now commercially scalable
-  AMD prevalence increasing globally
-  Current therapies require frequent injections
-  No approved regenerative retinal therapy exists
-  Major pharma actively seeking ophthalmology assets

Building a **vertically integrated** retinal medicine company across **research products**, **regenerative biology** and **RNA therapeutics**.

WHY NOW?

The convergence of AI, RNA therapeutics and retinal biology is creating **a new era in ophthalmology**



RETIGENYX: COMMERCIAL PLATFORM READY

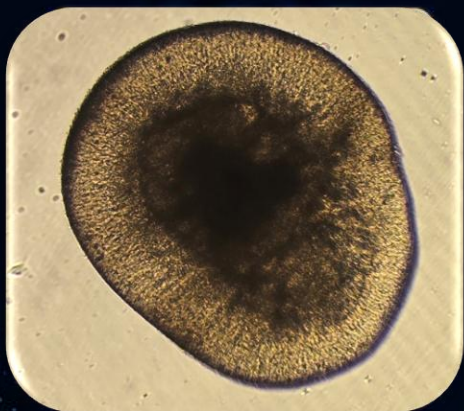
Validated science and a licensed platform ready for revenue generation.

HUMAN iPSC-DERIVED RETINAL MODELS

Ready for Commercialization

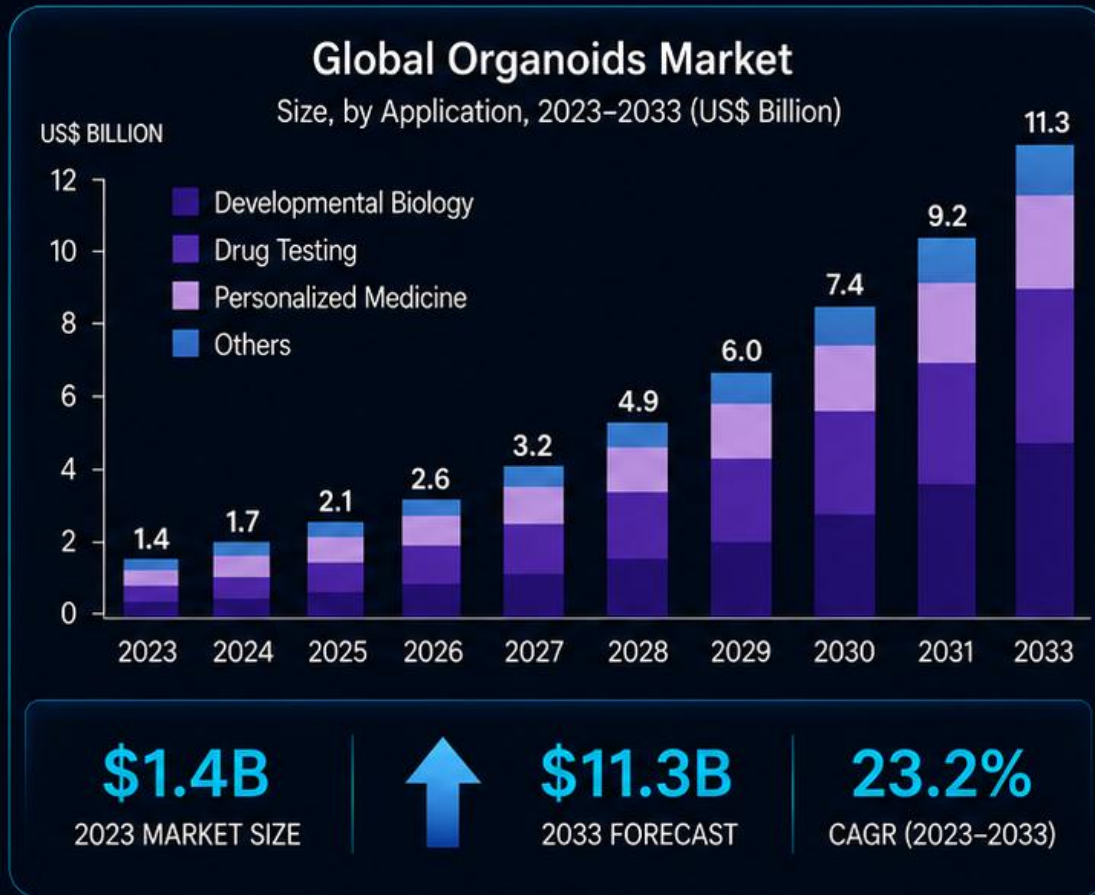


iPSC COLONY



RETINAL ORGANIDS

LARGE AND RAPIDLY GROWING MARKET



REVENUE GENERATION STRATEGY



Research-use-only retinal organoids



RPE cultures



RGC cultures



Drug screening partnerships



Screening of RNA therapeutics platform



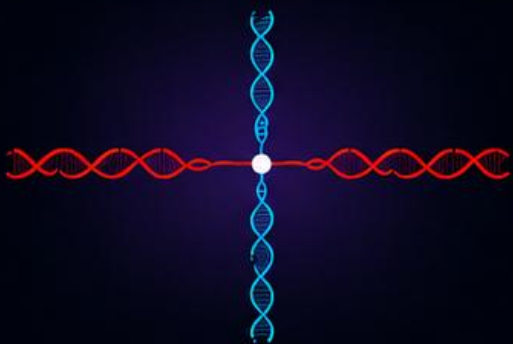
OPERATIONAL READINESS

- Retinal organoid differentiation established
- Proprietary iPSC line established
- Shipping and packaging workflow validated
- Ready for customer shipments upon execution of final licensing agreement



RETIGENYX AIMS TO BE THE MAIN SUPPLIER OF RETINAL ORGANIDS AND iPSC-DERIVED RETINAL CELL TYPES IN THE UNITED STATES.

1 MULTIFACTORIAL DISEASE REQUIRES MULTIFACTORIAL SOLUTIONS



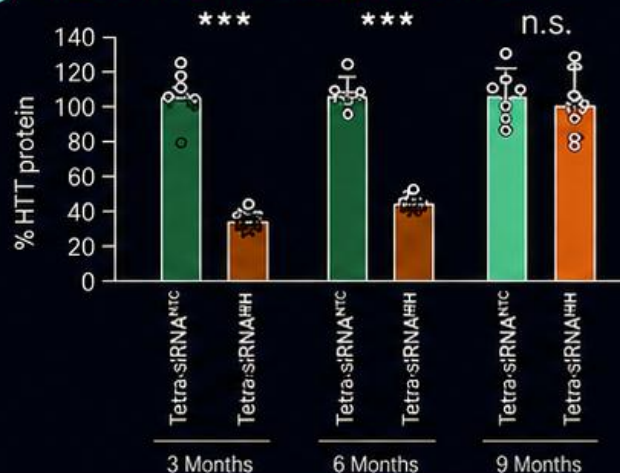
CURRENT CHALLENGES

- ✗ Wet and dry AMD often coexist
- ✗ Current therapies typically target a single pathway
- ✗ Separate treatment paradigms increase complexity

RETIGENYX APPROACH

- ✓ Multi-valent RNA architecture
- ✓ Up to 3–4 simultaneous targets
- ✓ Single therapeutic platform

2 REDUCING TREATMENT BURDEN



CURRENT CHALLENGES

- ✗ Frequent intravitreal injections
- ✗ Poor long-term compliance
- ✗ High healthcare burden

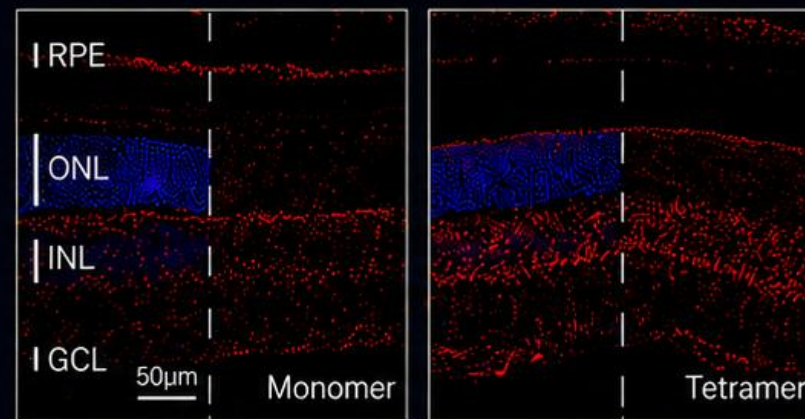
SUPPORTING DATA

- ✓ Tetra-siRNA durability demonstrated up to 6–9 months
- ✓ Potential for twice-yearly dosing
- ✓ Improved patient convenience



GOAL:
BIANNUAL TREATMENT SCHEDULE

3 DEEP RETINAL PENETRATION



CURRENT CHALLENGES

- ✗ Difficult delivery to deep retinal layers
- ✗ Multiple disease-driving cell types
- ✗ Limited access to photoreceptors

SUPPORTING DATA

- ✓ Photoreceptor targeting demonstrated following IVT delivery
- ✓ Broad retinal distribution
- ✓ Access to multiple retinal compartments

WHY RETIGENYX?

Current AMD therapies treat individual pathways. Retigenyx is developing **multi-valent RNA therapeutics** designed to **simultaneously address angiogenesis, inflammation, fibrosis, and retinal degeneration** while **reducing treatment burden** through durable retinal delivery.



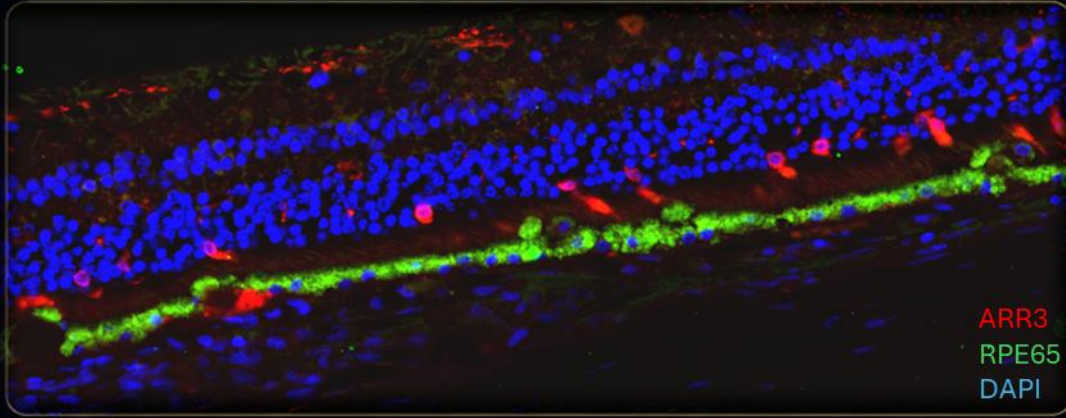
**ONE INJECTION.
MULTIPLE TARGETS.
BETTER OUTCOMES.**

MULTI-VALENT siRNA APPROACHES TO VALIDATED AMD TARGETS

We aim to reduce AMD patient burden to bi-annual intravitreal injections in wet and dry AMD

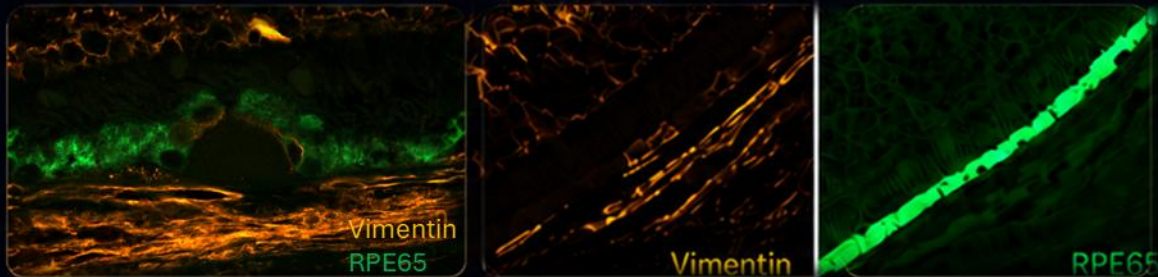
RPE DYSFUNCTION IN EARLY AMD PRECEDES PHOTORECEPTOR DEATH

Immunofluorescence of human AMD retina shows early RPE dysfunction with cone photoreceptor distress before overt photoreceptor loss.



RPE ACTIVATION AND EMT-LIKE CHANGES IN EARLY AMD

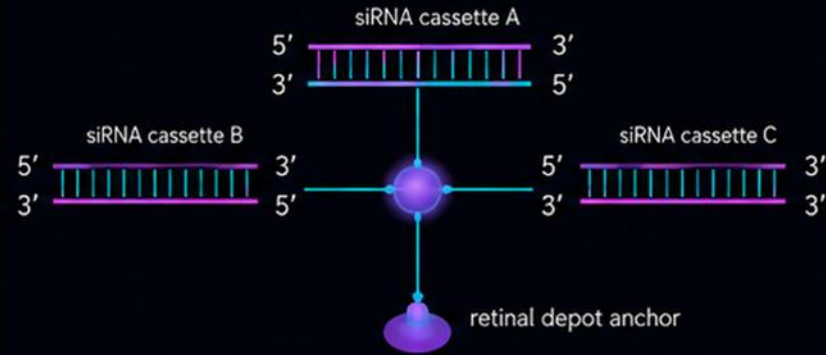
Vimentin (orange) is upregulated in RPE cells over drusen and in morphologically preserved RPE in AMD, indicating early activation and EMT-like changes.



These findings highlight an early disease window where RPE dysfunction and photoreceptor stress occur before cell death—creating a **critical opportunity** for RNA-based therapeutic intervention to restore homeostasis and prevent progression in AMD.

TRI-RETINA-siRNA-6M PLATFORM

Trivalent siRNA architecture for multi-target gene silencing with retinal depot retention and long half-life



Each siRNA cassette

5' mN fN mN fN mN fN mN fN 3'
3' N N fN fN mN mN fN fN mN 5'

mN = 2'-O-methyl nucleotide
fN = 2'-fluoro nucleotide

* = phosphorothioate linkage at terminal 2-3 positions
N = swappable A/U/G/C target-specific base

TRI-Retina-siRNA-6M = Core-[L-siRNA(A)]-[L-siRNA(B)]-[L-siRNA(C)]-[Retinal depot anchor]

Core = tri-lysine / tris-propargylamine / PEG3-triazine branchpoint

L = PEG3/PEG6 linker ± disulfide or ester release linker

A/B/C = independently swappable siRNA duplexes

Depot anchor = proprietary retinal depot anchor for retention and long half-life

MULTI-TARGET THERAPEUTIC APPLICATIONS

TARGET 1



Angiogenesis

TARGET 2



Inflammation

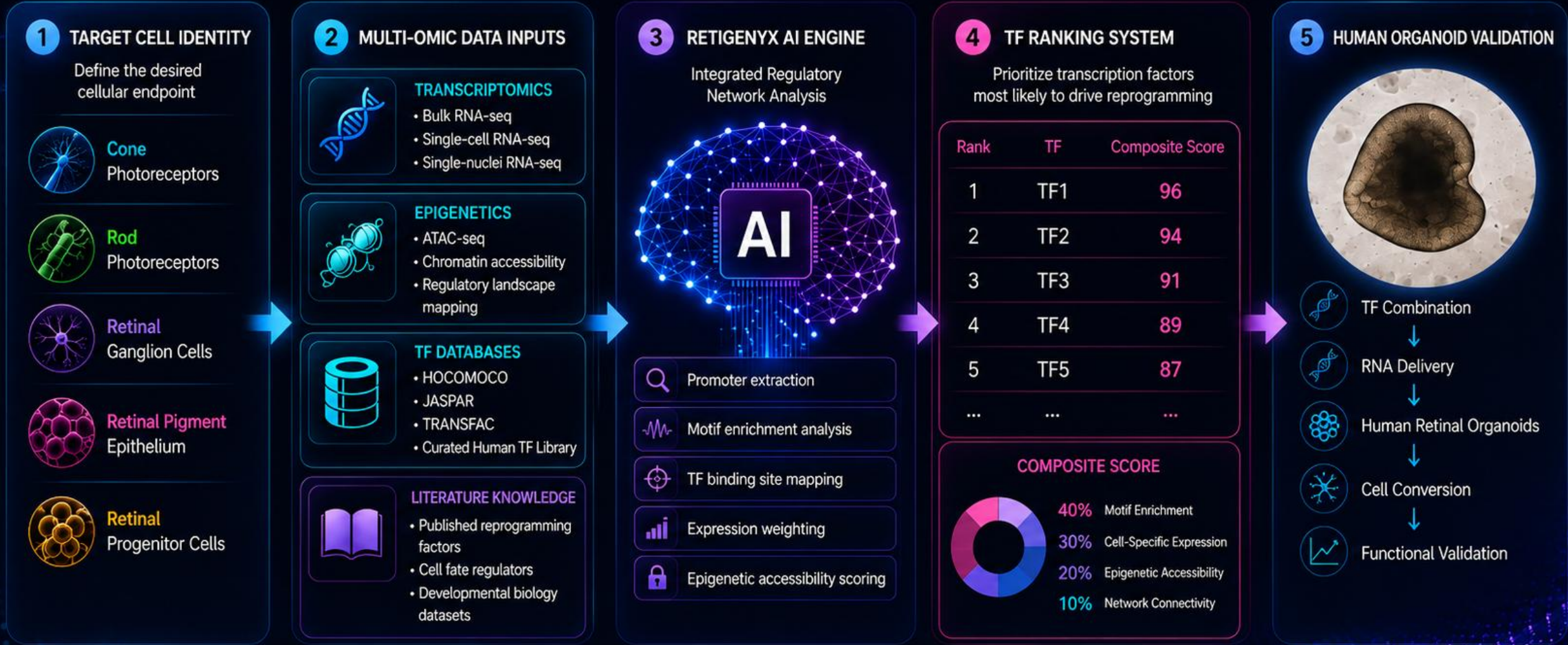
TARGET 3



Vascular destabilization

AI-DRIVEN TRANSCRIPTION FACTOR DISCOVERY ENGINE

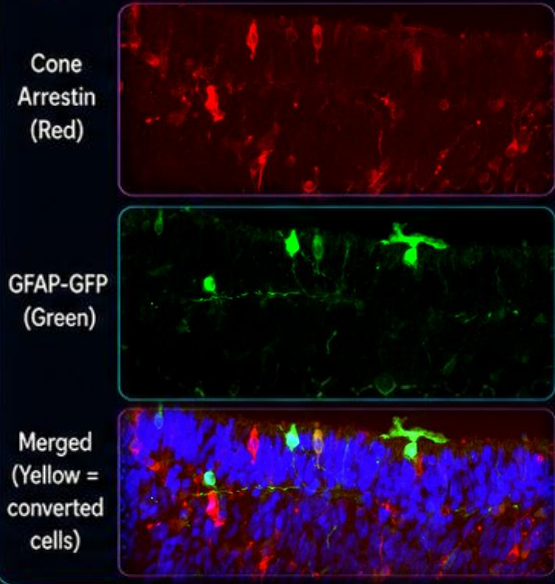
Systematic identification of cell reprogramming factors using multi-omic human datasets



AI-GUIDED RETINAL REPROGRAMMING

Reactivating regenerative programs through RNA therapeutics.

1 HUMAN RETINAL ORGANOIDS



PROVEN REPROGRAMMING EXPERTISE

Lead Inventor – WO2023199036A1
Retinal Müller glia reprogramming to retinal neurons and photoreceptors.
Experience translating transcription factor discovery into patentable regenerative medicine programs.

2 AI TF DISCOVERY ENGINE



AI-DRIVEN
TRANSCRIPTION
FACTOR
DISCOVERY

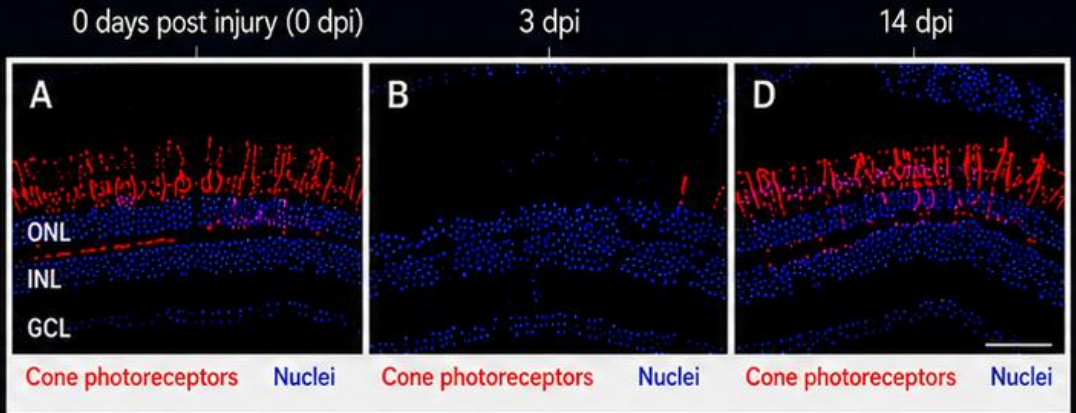
-  Single-cell RNA-seq
-  Epigenomic profiling
-  TF motif enrichment
-  Regulatory network analysis

OUTPUT:

Ranked transcription factor combinations for retinal regeneration

3 ZEBRAFISH RETINAL REGENERATION: EVIDENCE FOR RENEWAL

The expression and function of midkine in the vertebrate retina (Gamage et al.)



Zebrafish retinas regenerate lost photoreceptors through activation of Müller glia, which proliferate, generate retinal progenitor cells (RPCs), and restore new neurons.

Retigenyx is applying AI-driven RNA reprogramming to recreate this regenerative process in human retinal tissue.



OUR VISION

Convert resident Müller glia into retinal progenitor cells to restore vision in degenerative retinal disease.

Geraint Parfitt, PhD

Founder & CEO

Former Associate Director,
AbbVie Ophthalmology Discovery

Former VP, R&D, Oasis Medical

Former Principal Scientist, Mogrify

Marie Curie Fellow

Cardiff University PhD, Biophysics

A CAREER DEDICATED TO RESTORING SIGHT



WHY I'M BUILDING RETIGENYX

15+ years at the intersection of retinal regeneration, stem cells, gene therapy, and translational ophthalmology.

Retigenyx is the culmination of that journey.



RETINAL REGENERATION

Lead Inventor
WO2023199036A1
Müller glia reprogramming to photoreceptors and retinal neurons



STEM CELL BIOLOGY

First to describe meibomian gland stem cells
Stem Cell Reports 7 (3), 39 (2016)



TRANSLATIONAL DEVELOPMENT

AbbVie Ophthalmology Discovery
Led retinal pharmacology and translational programs supporting IND-enabling development



15+ YEARS
R&D leadership in ophthalmology



H-INDEX 16
Peer-reviewed impact



1 PATENT FAMILY
Retinal regeneration (WO2023199036A1)



LEADERSHIP
AbbVie, Mogrify, Oasis Medical

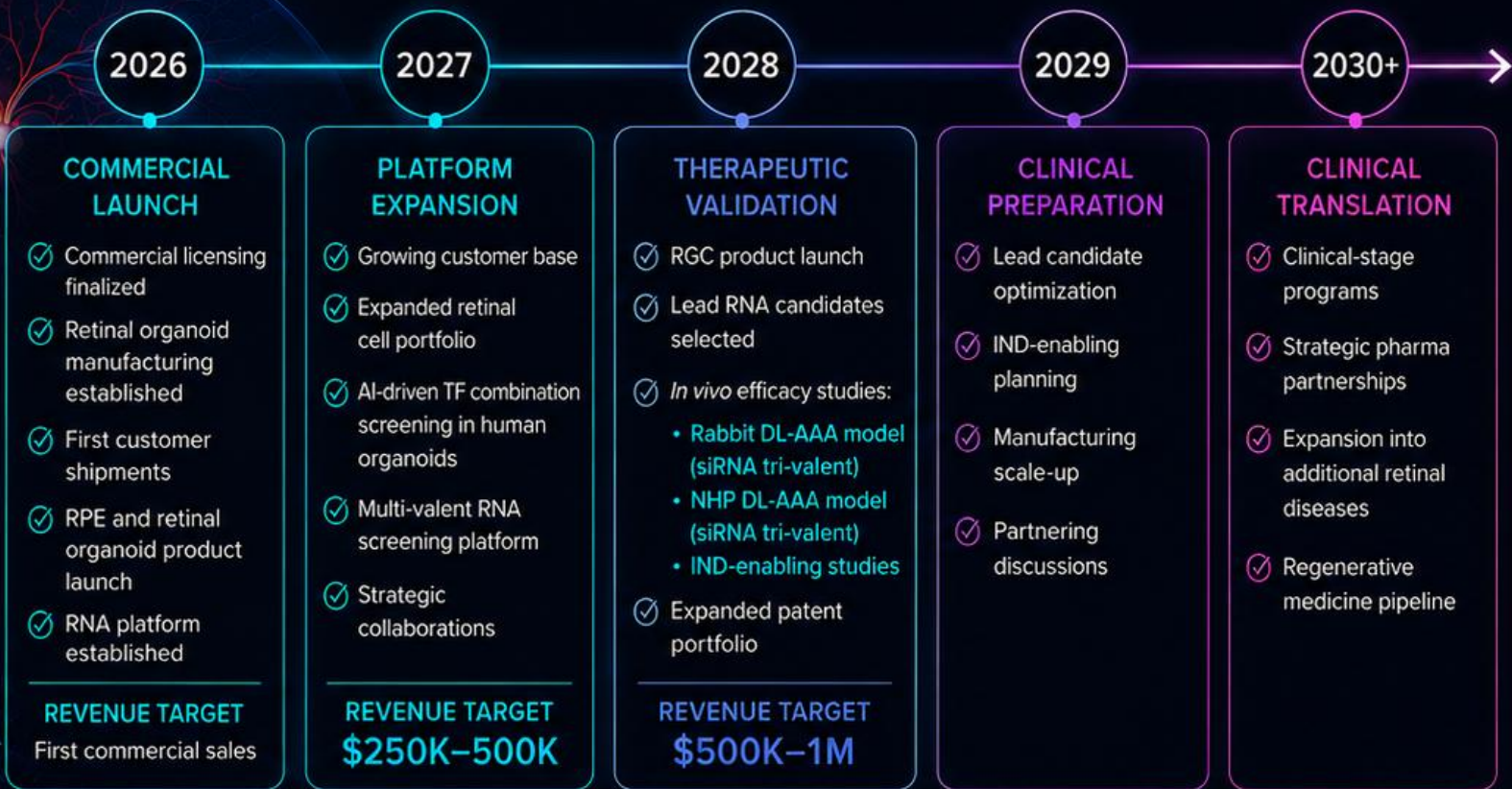


MARIE CURIE FELLOW
Recognized for scientific excellence

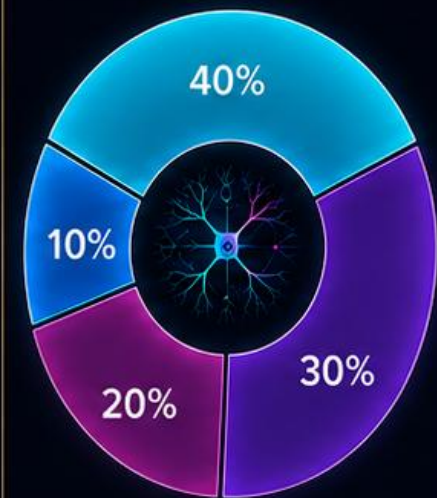
RETIGENYX: DEVELOPMENT ROADMAP & USE OF FUNDS

Revenue today. Therapeutics tomorrow.

DEVELOPMENT ROADMAP



SEEKING
\$500K
SEED FINANCING



40% COMMERCIAL PLATFORM

- Organoid manufacturing
- Quality systems
- Customer acquisition
- Product expansion

30% RNA THERAPEUTICS

- Multi-valent RNA development
- Screening studies
- In vivo* validation
- Lead candidate selection

20% INTELLECTUAL PROPERTY

- Patent filings
- Portfolio expansion
- Freedom-to-operate analyses

10% OPERATIONS

- Equipment
- Regulatory preparation
- Legal



INVESTMENT THESIS

Retigenyx is designed to generate **near-term revenue** through retinal organoids, RPE cultures, and retinal cell products while simultaneously advancing high-value RNA therapeutics and regenerative medicine programs for **long-term value creation**.





Retigenyx[®]

Reprogramming vision

LET'S REPROGRAM THE FUTURE OF VISION

We are building RNA-based therapies to restore vision through cell reprogramming.

We welcome conversations with investors who share our mission.



EMAIL

geraint@retigenyx.com



LOCATION

Claremont, California



Retigenyx[®]
Reprogramming vision

