ASCLEPiX THERAPEUTICS

Developing a novel and **durable** treatment for retinal diseases

CORPORATE PRESENTATION

FEBRUARY 2022

AsclepiX Overview

ASCLEPiX THERAPEUTICS

Clinical-stage biotech leveraging computational biology from Johns Hopkins to identify and develop peptides for improved treatments of retinal diseases

AXT107: first-in-class integrin regulator

- Novel multi-targeted MOA inhibits VEGF and activates TIE2
- Following IVT, forms into a gel and expected to have longer lasting **durability**

Strong global IP portfolio (through 2039)

Completed $35M Series A in June 2020

PERCEPTIVE ADVISORS

xontogeny

HIBISCUS BIOVENTURES

RAPHA CAPITAL MANAGEMENT

Strong Leadership and Advisory Team

Management

Prominent biopharma executives with extensive drug development and commercial product experience in ocular diseases

Robert J. Dempsey, MBA
Chief Executive Officer and President

TearClear · NOVARTIS · Takeda · Shire

Amir Shojaei, Pharm.D., Ph.D.
Chief Scientific Officer

TherOptix · TearClear · Takeda · Shire

Niranjan B. Pandey, Ph.D.
Vice President, Research & Innovation

Johns Hopkins School of Medicine · ALBA Therapeutics · Johnson & Johnson

Founders & Scientific Advisory Board

Renowned researchers developed groundbreaking computational biology portfolio in-licensed by AsclepiX

Aleksander S. Popel, Ph.D.
Founder, Chief Scientific Advisor, Johns Hopkins School of Medicine

Peter A Campochiaro, M.D.
Founding Scientific Advisor, Professor, Johns Hopkins School of Medicine

Jordan Green, Ph.D.
Founder, Chief Technology Advisor, Professor, Johns Hopkins School of Medicine

Board of Directors

Steven Altschuler, M.D.
Chairman; Managing Director, Ziff Capital

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CEO and President

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Managing Director, Hibiscus Bioventures and Barer & Son Capital

Ben Askew, Ph.D.
Partner, Xontogeny

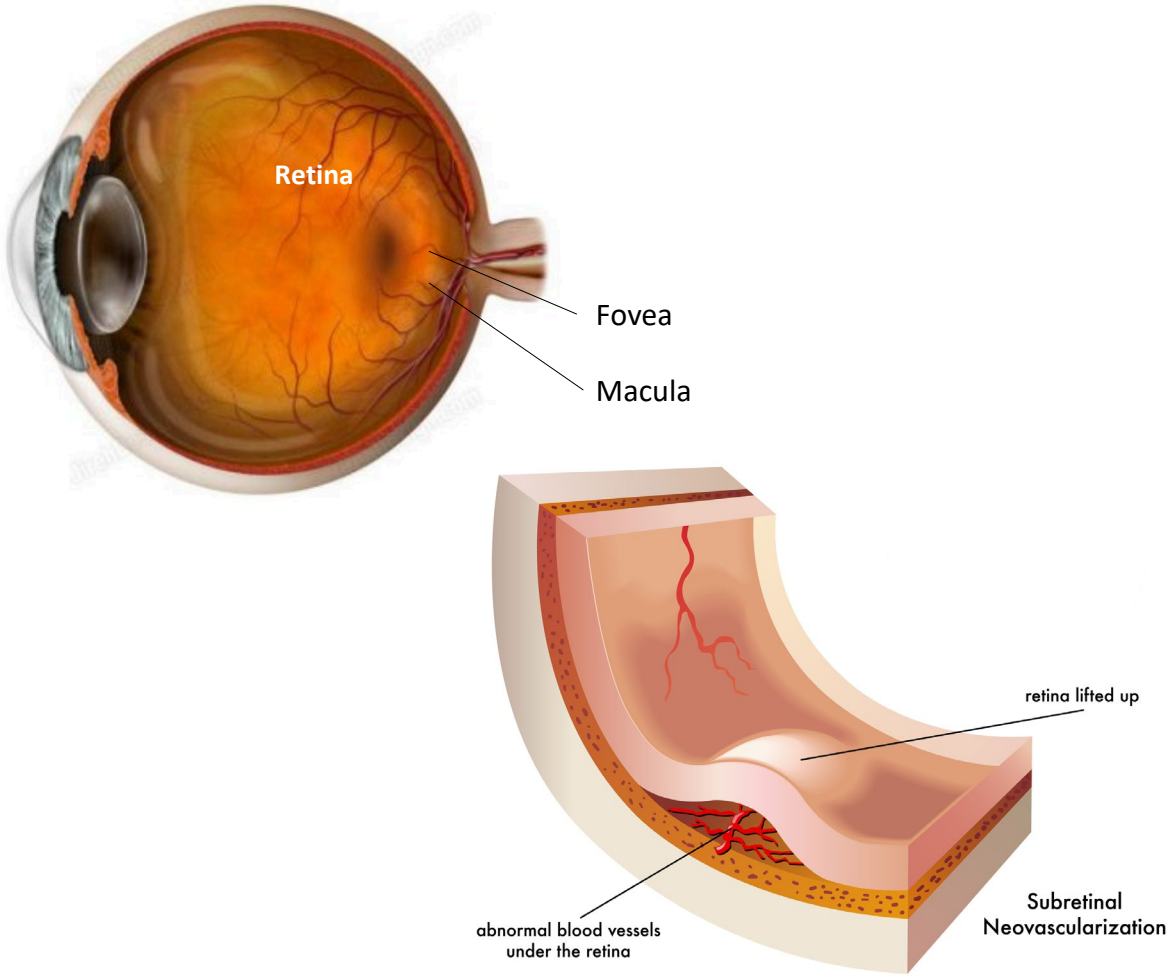
Chris Garabedian
CEO, Xontogeny
PXV Fund, Perceptive Advisors

Jordan Green, Ph.D.
Founder & CTA, AsclepiX

Sapna Srivastava, Ph.D.
Previously CSO and CFO, Abide Therapeutics

nAMD (Neovascular AMD) and DME

Neovascularization, the formation of abnormal blood vessels under the retina, and **vascular leakage** are the hallmarks of both diseases, ultimately leading to vision loss



Neovascular Age-Related Macular Degeneration

- Leading cause of severe vision loss among individuals who are 65 and older
- Neovascularization triggers inflammation, hemorrhages and swelling
- Highly progressive disease

Diabetic Macular Edema

- Affects ~ 1 in 4 people with diabetes (Type 1 and Type 2)
- High blood sugar causes neovascularization, vascular leakage and swelling (edema)

Growing nAMD Market Opportunity (~$11B)[1]

Age-Related Macular Degeneration (AMD)

AMD (wet and dry) affects **~11M** individuals in the U.S.[2]

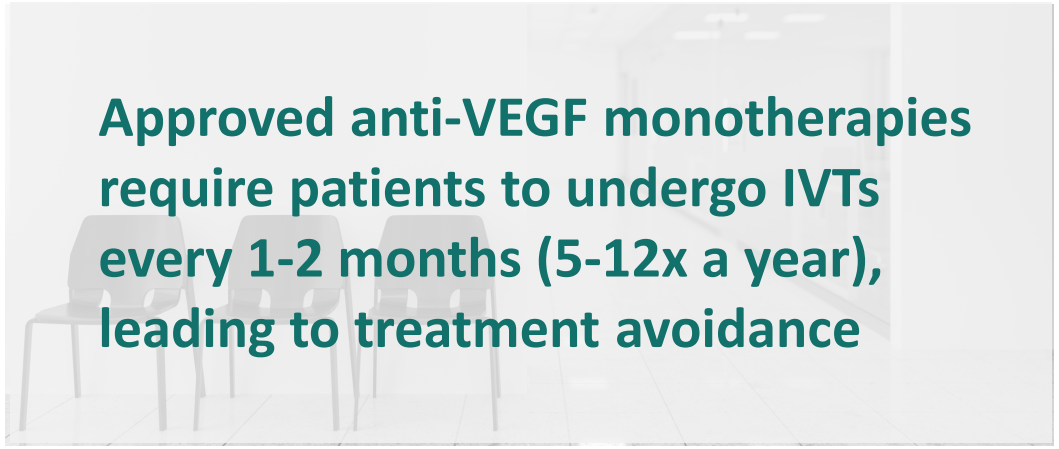
While nAMD (1.1M) is less common than dry AMD, **nAMD accounts for the vast majority (90%) of AMD-related vision loss in the U.S.**[3,4]

Treatment Limitations

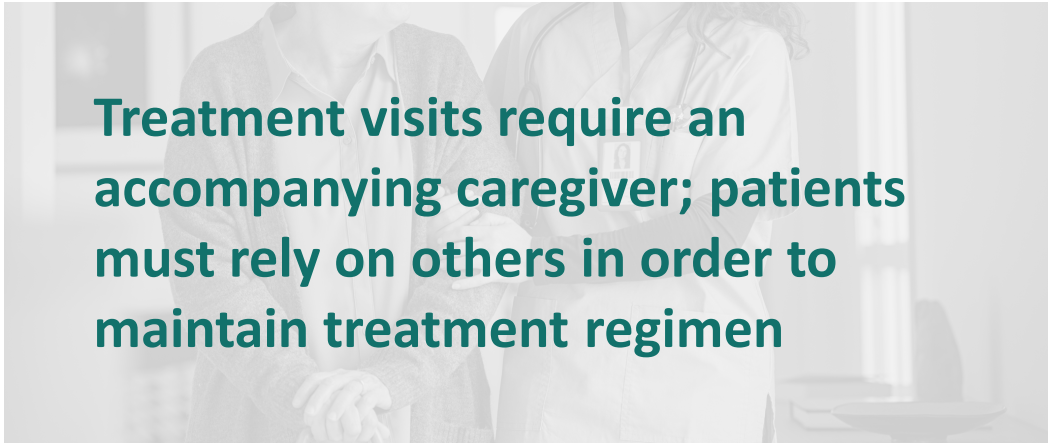
- Approved treatments do not provide sustained durability
- Only 35% of nAMD patients gain >3 lines of vision with treatment[5,6] indicating partial or non-response

1. Pennington K, DeAngleis M. Epidemiology of age-related macular degeneration (AMD): associations with cardiovascular disease phenotypes and lipid factors. Eye Vis (Lond). 2016; 3: 34.
2. Mulligan K, et al. JAMA Opthalmol. 2020; 138(1):40-47.
3. Baumal CR. Am J Manag Care. 2020; 26(5 suppl):S103-S111
4. Rosenfeld et al. New England Journal Medicine 2006; 355: 1419-1431
5. Brown et al. New England Journal Medicine 2006; 355:1431-1444
6. Gonzalez et al. (2016) Am J Opthalmol, 172:72-79

nAMD High Treatment Burden with Consequences for Efficacy



Approved anti-VEGF monotherapies require patients to undergo IVTs every 1-2 months (5-12x a year), leading to treatment avoidance



Treatment visits require an accompanying caregiver; patients must rely on others in order to maintain treatment regimen

ASRS Global Preference and Trends (PAT) Survey

Greatest unmet needs in nAMD treatment*

- **Reduced treatment burden**
- **Sustained delivery/long acting durability**
- **New treatment MOAs**

Source: ASRS Global Preference and Trends (PAT) Survey, 2018

AsclepiX's Pipeline of New Chemical Entities

Lead program: nAMD

Product Candidates	Program Area	Preclinical	Phase 1/2a	Phase 2/3
AXT107	Ophthalmology			
	Neovascular Age Related Macular Degeneration (nAMD)			
	Diabetic Macular Edema (DME)			
	Retinal Vein Occlusion			
AXT108	Ocular Surface Disease			
AXT201	Oncology			
	Triple-Negative Breast Cancer			
	Solid Tumor			

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Lead Candidate: AXT107

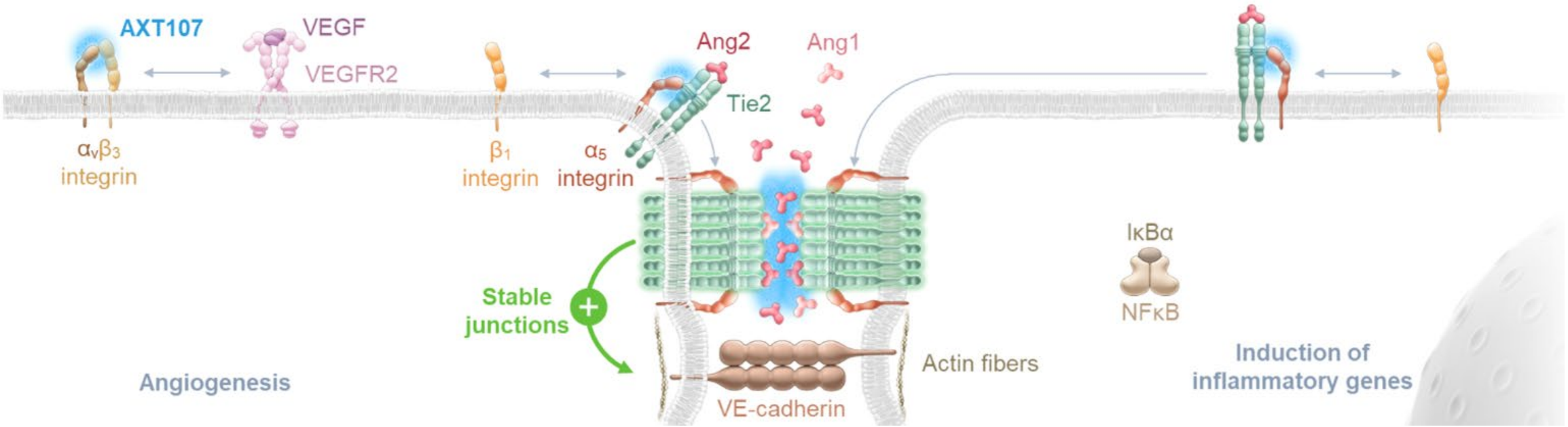
AXT107: NCE With Unique Multi-Targeted MOA

First-in-class integrin regulator and the first product candidate designed to impact 3 key pathways

Inhibits neovascularization: disrupts vascular endothelial growth factor (VEGF) R2; potently inhibits VEGF-A, C, Placenta Growth Factor (PlGF) with downstream effects

Reduces vascular permeability and leakage: promotes TIE2 clustering at intracellular injunctions; enables Ang2 to function interchangeably with Ang1 to activate TIE2

Suppresses vascular inflammation: inhibits NFkB-mediated inflammation



AXT107: Competitive Advantage

AXT107

- ✓ First-in-class integrin regulator
- ✓ Multiple modes of action
- ✓ Potent inhibition of VEGF family
- ✓ Significantly longer durability compared to SoC

	Inhibits VEGF-A	Inhibits VEGF-C	ANG2 Inhibitor	Activates TIE2 pathway (ANG1 & ANG2)	Inhibits NFkB	Durable Treatment Regimen+
AXT107 (AsclepiX)	✓	✓		✓	✓	1-2
Eylea* (Regeneron)	✓					7
Lucentis* (Genentech)	✓					12
Vabysmo* (Roche)	✓		✓			6-8
KSI-301 (Kodiak)	✓					5

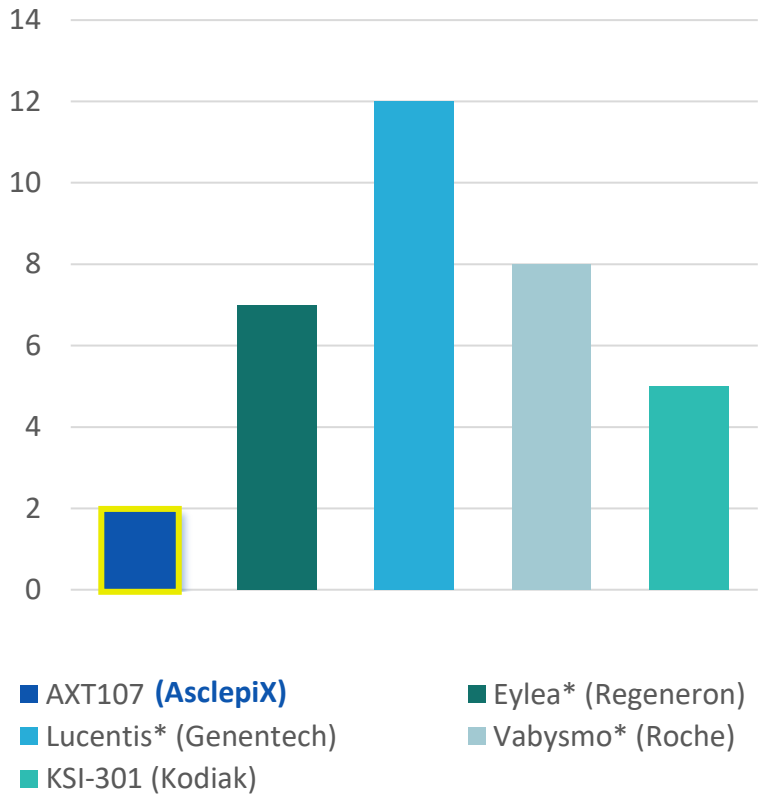
* Approved product
\+ Number of injections during the first year of treatment

AXT107 is Differentiated by its Long-Lasting Durability

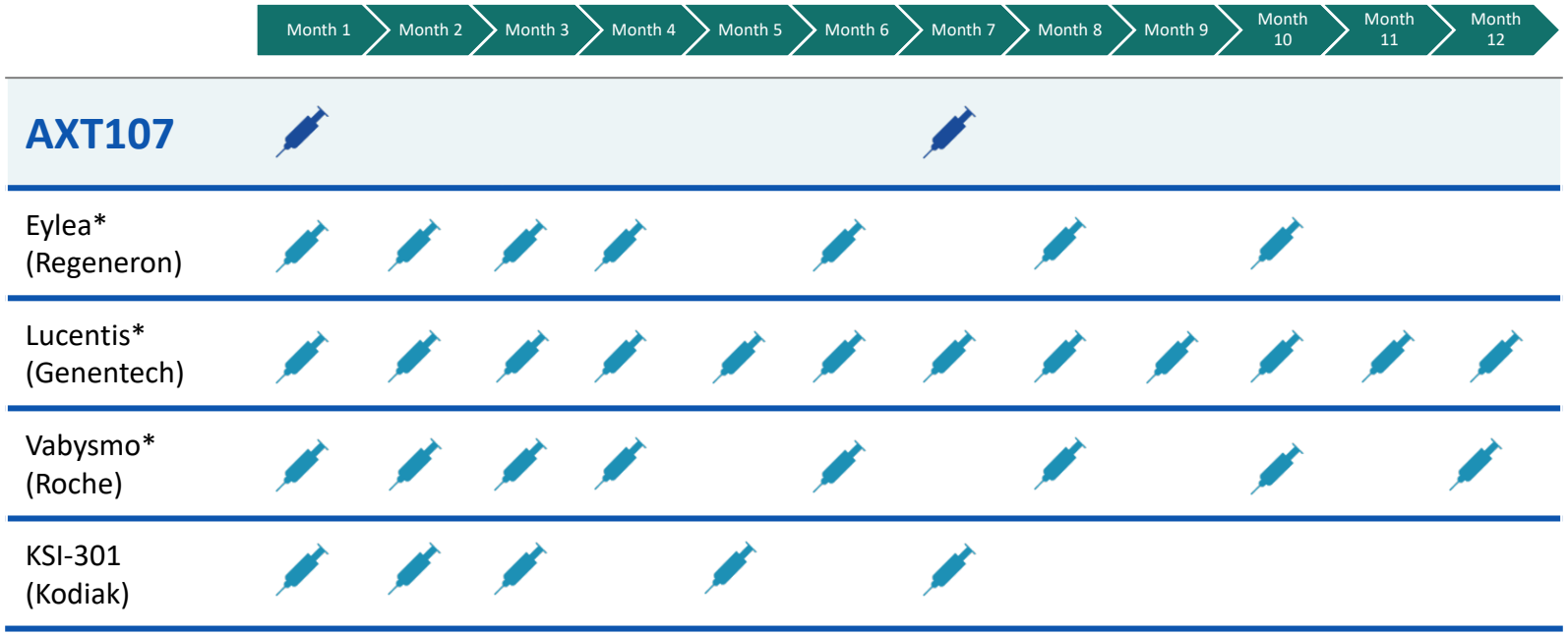
AXT107 potentially requires only 1-2 IVTs per year:

- significantly fewer IVTs than SoC and late-stage programs in development
- potential to improve treatment options for patients and meaningfully impact quality of life

Total # of Injections per Year+



Loading Doses and Maintenance Injections+



* Approved product
\+ First year of treatment

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Preclinical Data of AXT107

AXT107 Preclinical Data Demonstrates Multimodal Mechanism of Action

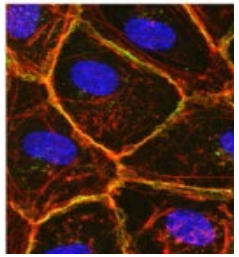
AXT107 Impacts 3 Key Pathways

- Inhibits VEGF family and **neovascularization**
- Activates TIE2 and reduces **vascular permeability and leakage**
- Suppresses NFkB-mediated **vascular inflammation**

AXT107 Inhibits Neovascularization and Vascular Leakage *In Vitro*

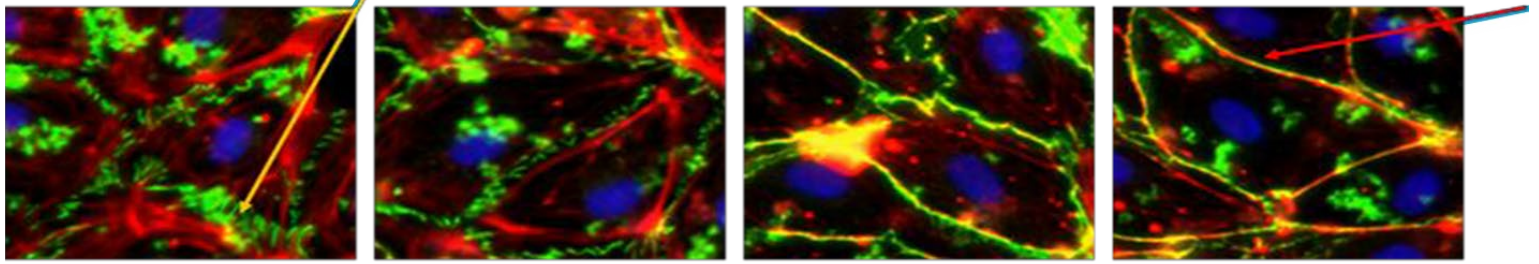
Endothelial Cells in Culture[1]

Staining for VE-Cadherin and Actin on Endothelial Cells



Well formed endothelial cell junctions with co-localized Actin and VE-Cadherin [2]

Jagged and Irregular VE-Cadherin

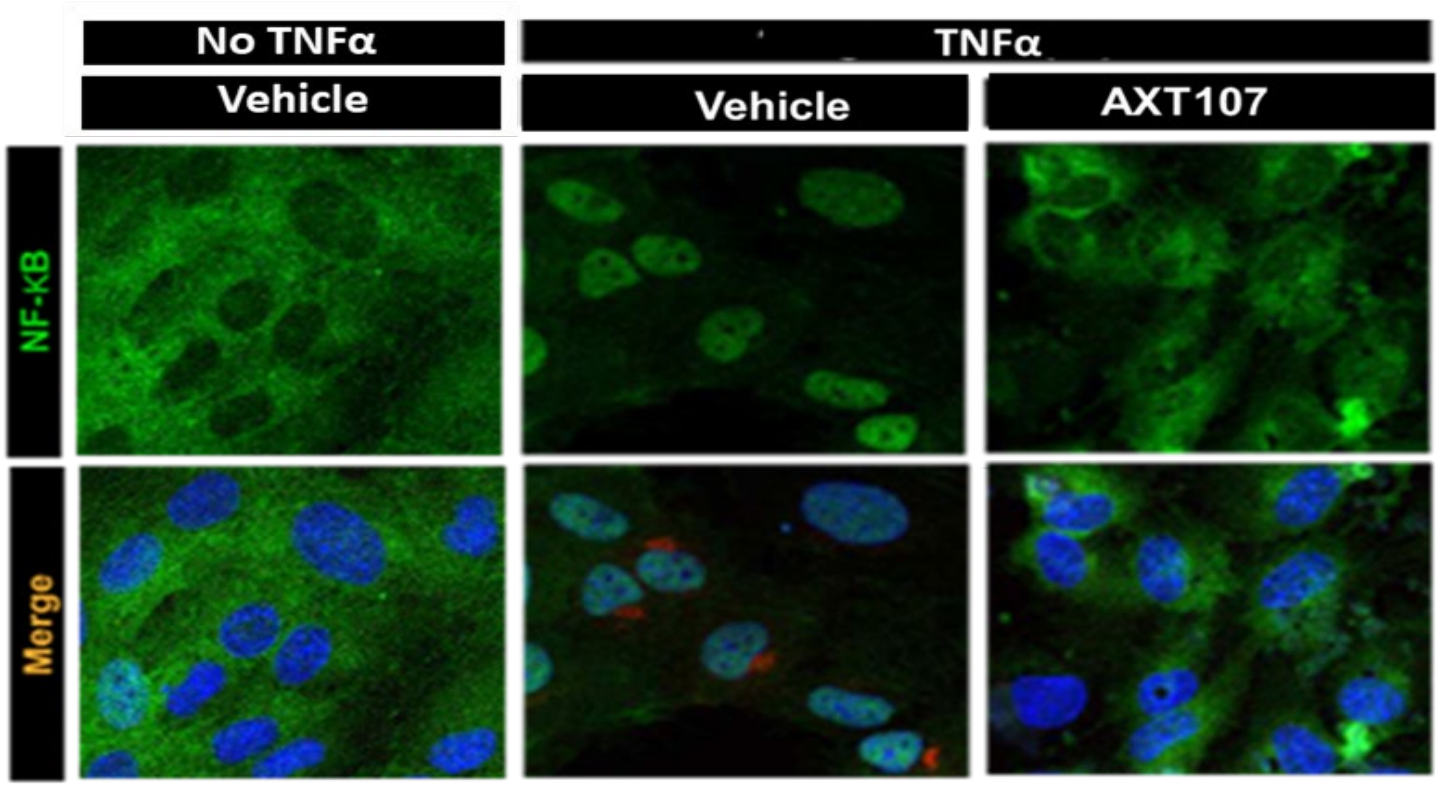


0 µM AXT107 | 10 µM AXT107 | 32 µM AXT107 | 100 µM AXT107

Co-localized Actin and VE-Cadherin at Cell-Cell Junction

1. A Mirando et al Collagen IV Derived Peptide Disrupts $\alpha_5\beta_1$ Integrin Potentiates Ang2 Tie2 Signaling JCI Insight February 21, 2019
2 . I Chrifi et al CMTM4 regulates angiogenesis by promoting cell surface recycling of VE-cadherin to endothelial adherens junctions Angiogenesis 2019

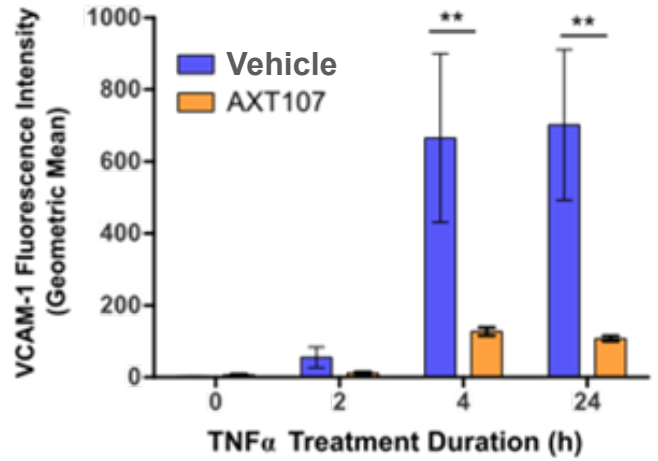
AXT107 Suppresses Vascular Inflammation *In Vitro*

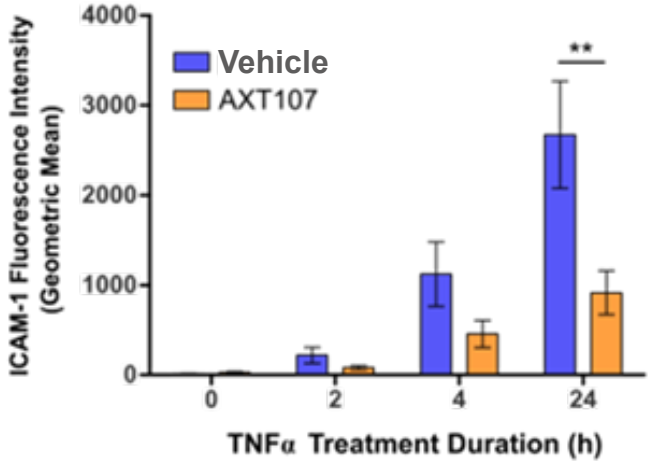


- NFκB is normally in the cytoplasm – shown in green
- Nucleus is stained in blue

- TNFα causes NFκB to enter the nucleus where it activates transcription of inflammatory proteins like VCAM-1 and ICAM-1

- AXT107 activates TIE2 to inhibit TNFα
- AXT107 suppresses inflammation as NFκB remains in cytoplasm and levels of inflammatory proteins like VCAM-1 and ICAM-1 are reduced





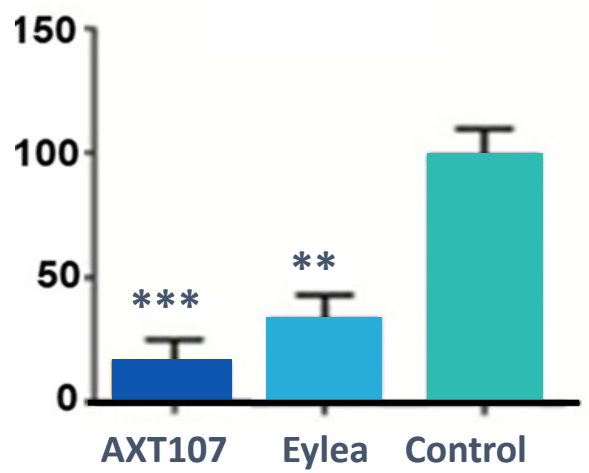
SOURCE: Mirando, A.C.; Lima e Silva, R.; Chu, Z.; Campochiaro, P.A.; Pandey, N.B.; Popel, A.S. Suppression of Ocular Vascular Inflammation through Peptide-Mediated Activation of Angiopoietin-Tie2 Signaling. *Int. J. Mol. Sci.* 2020, *21*, 5142.

AXT107 Compared Favorably to Eylea (aflibercept) in Animal Models

Rabbit VEGF Induced Vascular Edema Model

Day 30

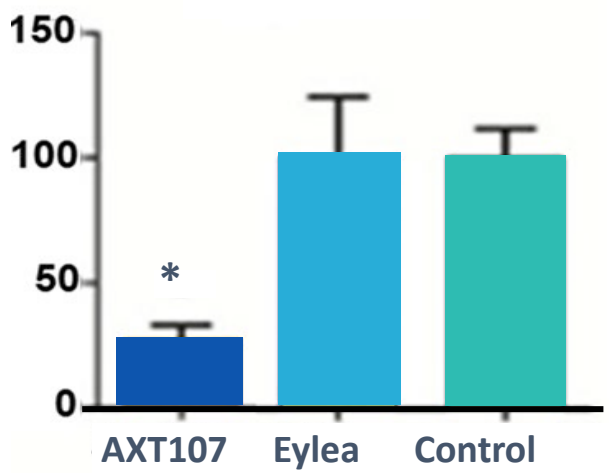
Fluorescein Leakage (%)



- AXT107 showed statistically significant inhibition of leakage up through 30 days
- Remaining leakage is reduced by 55% compared to Eylea

Day 60

Fluorescein Leakage (%)



- Single administration of AXT107 inhibited leakage up through 60 days, while Eylea is inactive by day 60

SOURCE: Lima e Silva , P Campochiaro et al Tyrosine Kinase Blocking Peptide Suppresses Ocular Neovascularization and Vascular Leakage, Sci. Transl. Med. 9 , eaai8030 (2017) 18 January 2017

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Latest Phase 1/2a Clinical Data

Phase 1/2a Study of AXT107 in nAMD

Open-label, dose-escalating, 48-week study

Assessing the safety, tolerability, bioactivity and duration of action of a single intravitreal injection of 100 mcg, 250 mcg, or 500 mcg of AXT107

Data in low dose cohort (n=3) - all subjects dosed at 100 mcg

Baseline Characteristics:

- Ages 76 – 84 years old, with clinical history of responding to anti-VEGF injections
- Number of anti-VEGF injections in 12 months prior to baseline: 1-4
- BCVA (letters): 21– 64 at baseline

Primary Objective: safety

Secondary Objectives: efficacy measured by retinal thickness (central subfield thickness: CST) and Best Corrected Visual Acuity (BCVA)

Phase 1/2a Study of AXT107 in DME

Open-label, dose-escalating, 48-week study

Assessing the safety, tolerability, bioactivity and duration of action of a single intravitreal injection of 100 mcg, 250 mcg, or 500 mcg of AXT107

Data in low dose (100 mcg) and mid dose (250 mcg) cohorts - 3 subjects in each cohort

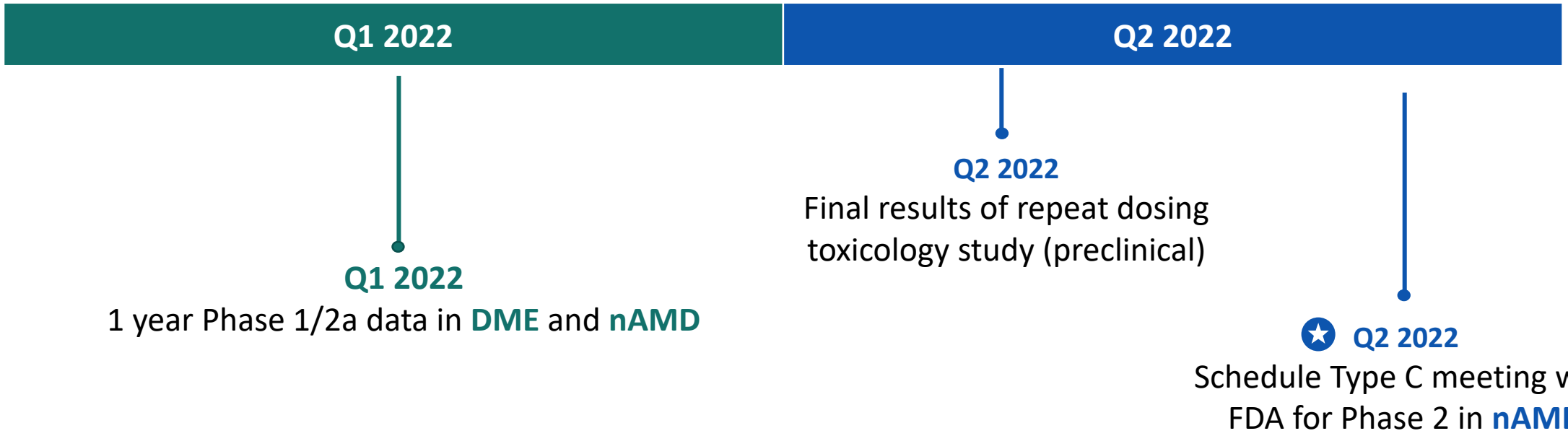
Baseline Characteristics:

- Age range: 55 – 75 years old
- Number of anti-VEGF injections in 12 months prior to baseline: 4-12
- BCVA letters: 56– 65 at baseline

Primary Objective: safety

Secondary Objectives: efficacy measured by retinal thickness (central subfield thickness: CST) and Best Corrected Visual Acuity (BCVA)

Multiple Value-Driving Clinical/Regulatory Milestones in the Next Six Months



AsclepiX Summary

Committed leadership team with extensive experience in clinical development in retinal diseases

AXT107: new chemical entity impacting multiple pathways currently in Phase 1/2a studies for nAMD and DME

- Inhibits VEGF family and neovascularization
- Activates TIE2 and reduces vascular permeability and leakage
- Suppresses NFkB-mediated vascular inflammation

Preclinical data compared favorably to Eylea (aflibercept)

A total of 9 subjects completing study (48 weeks)

Multiple value-driving clinical milestones in 2022

ASCLEPiX THERAPEUTICS

Corporate Headquarters

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Baltimore, Maryland 21211

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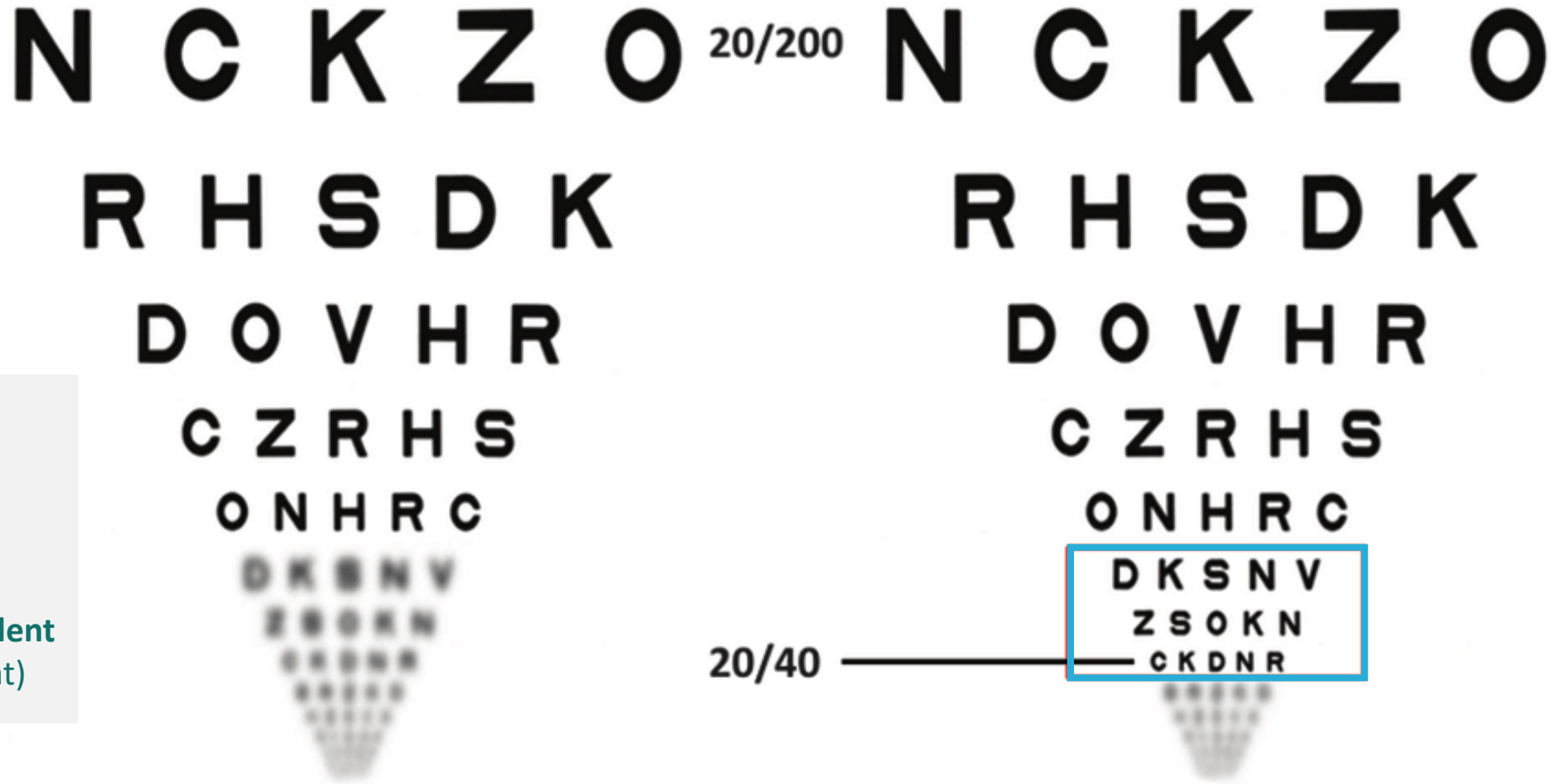
Appendix

Vision Measured by Best Corrected Visual Acuity (BCVA)



Example:

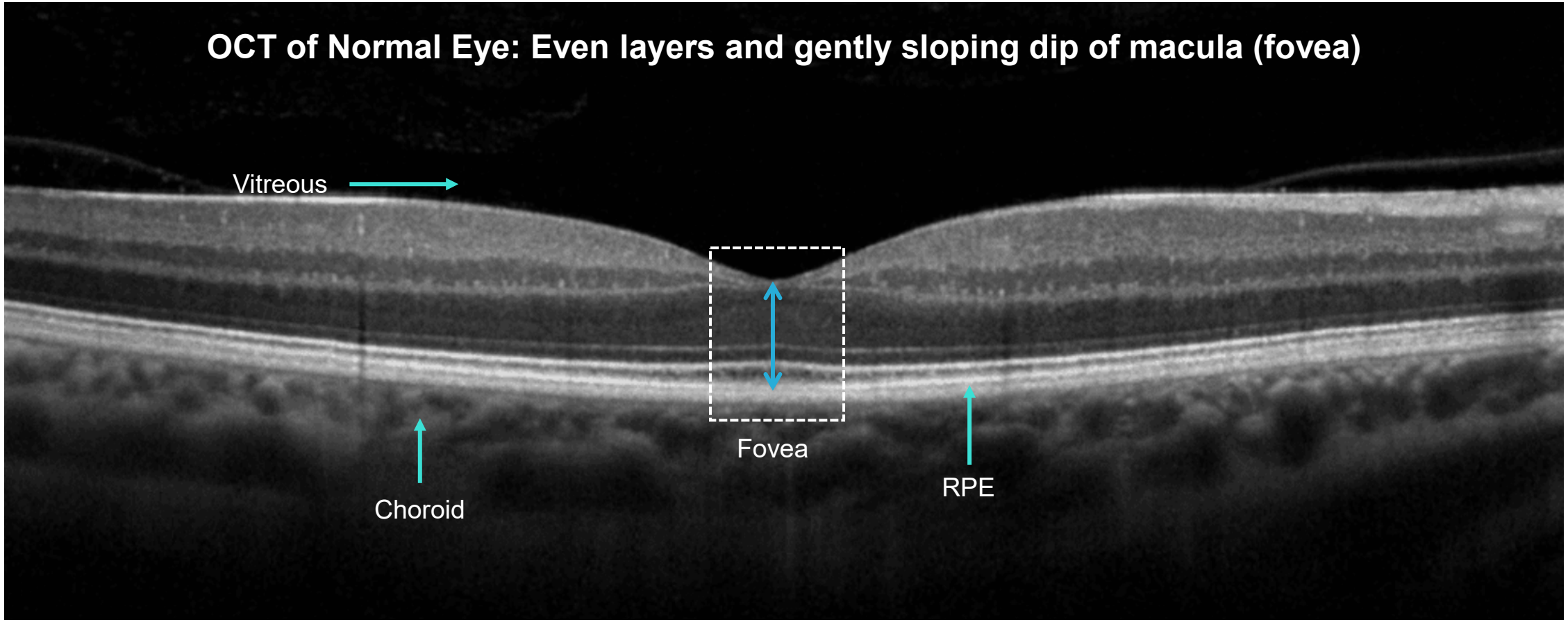
15-letter gain
(3 lines on ETDRS chart)

20/40 BCVA Snellen equivalent
(minimum driving equivalent)

ETDRS, Early Treatment Diabetic Retinopathy Study
BCVA, best-corrected visual acuity

In macular diseases, retinal thickness is correlated with greater vision loss

Widely used diagnostic imaging for retinal disease enabling visualization of the vitreous, retinal layers, retinal pigment epithelium, and choroidal layers



CRT: Central retinal thickness
(normal: 260 – 280 µm)

https://stoneycreekeyecare.com/what-is-optical-coherence-tomography-oct/