

# STOPPING CLASSICAL COMPLEMENT AT THE START

**ANNEXON**  
biosciences



TREATING DISEASES OF THE BODY, BRAIN AND EYE

COMPANY PRESENTATION  
JANUARY 11, 2021

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# Annexon: Pioneering Classical Complement Therapies to Treat Autoimmune, Neurodegenerative and Ophthalmic Diseases



- **Blocking upstream complement to stop disease processes at the start**
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- **Broad platform potential in orphan and large patient populations in autoimmune, neurodegenerative and ophthalmic diseases**
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- **Phase 2 pipeline with 3 drug candidates** to deliver near-and mid-term catalysts
- **Precision medicine approach** leveraging complement and disease biomarkers
- **Well capitalized with worldwide rights** to development and commercialization

# Demonstrated Leadership Advancing Transformative Therapies



**Doug Love, Esq.**  
President & CEO  
Genentech, Amgen, Elan



**Ted Yednock, Ph.D.**  
Chief Scientific Officer  
Elan, Prothena, Athena



**Jennifer Lew**  
Chief Financial Officer  
Aduro, Dynavax, Ernst & Young



**Sanjay Keswani, M.D.**  
Chief Medical Officer  
Roche, Eli Lilly, Amgen,  
Bristol-Meyers Squibb



**Michael Overdorf**  
Chief Business Officer  
Eli Lilly



# Building a Leading Multi-Faceted Complement Company

## 2020: A Foundational Year

- ✓ **\$100M Series D** in June and **\$263M Nasdaq IPO** in July
- ✓ **Robust ANX005 and ANX007 patient data** demonstrating tolerability, full target engagement, biomarker/clinical data
- ✓ **Rapidly advancing into multiple Ph2** autoimmune, neurodegenerative and ophthalmic trials
- ✓ **Developing innovative next generation drug candidates**
  - ANX009 subcutaneous First-in-Human trial ongoing
  - Follow-on small molecule and monoclonal antibody candidates advancing to IND

# Robust Clinical Pipeline of C1q Inhibitors for Body, Brain & Eye

Multiple clinical stage drug candidates with diverse routes of administration

INDICATION	PRECLINICAL	PHASE 1	PHASE 2	PHASE 2/3	CURRENT STATUS
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## ANX005 (IV)

Guillain-Barré Syndrome (GBS)					Ph 2/3 Ongoing
Warm Autoimmune Hemolytic Anemia (wAIHA)					Ph 2 Initiating
Huntington's Disease (HD)					Ph 2 Ongoing
Amyotrophic Lateral Sclerosis (ALS)					Ph 2 Initiating

## ANX007 (IVT)

Geographic Atrophy (GA)					Ph 2 Initiating
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## ANX009 (SubQ)

Autoimmune					Ph 1 Ongoing
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# Significant Catalysts in 2021 and Beyond

Sufficient cash-runway to achieve these milestones

INDICATION	1H 2021	2H 2021	2022	2023
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## ANX005 (IV)

Guillain-Barré Syndrome (GBS)	DDI data			Ph2/3 data
Warm Autoimmune Hemolytic Anemia (wAIHA)			Ph2 data	
Huntington's Disease (HD)		Ph2 initial data		
Amyotrophic Lateral Sclerosis (ALS)		Ph2 initial data		

## ANX007 (IVT)

Geographic Atrophy (GA)				Ph2 data
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## ANX009 (SubQ)

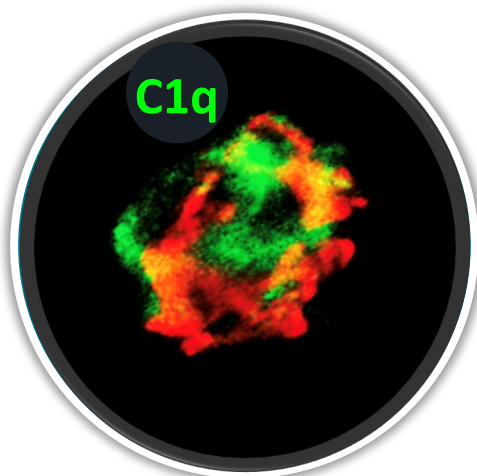
Autoimmune	Ph1 data		Ph2 data	
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# Why C1q and the Classical Complement Pathway?

C1q is key driver of disease processes for indications Annexon has targeted

C1q directly binds to tissue, initiating and anchoring complement in diseases of the body, brain and eye

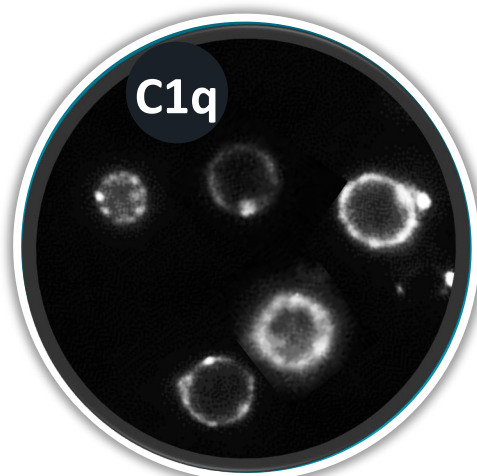
## GBS



*C1q Targeting the Neuromuscular Junction*

Halstead, et al. 2004 Brain 127: 2109–2123

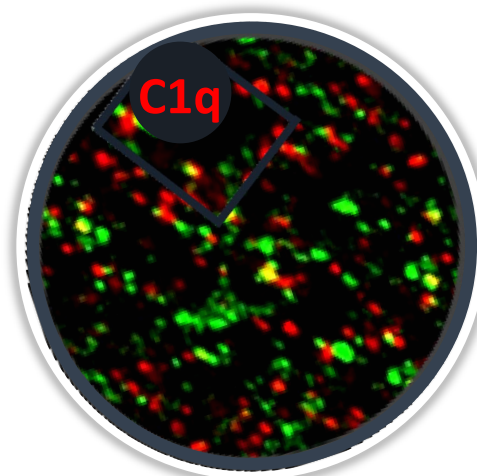
## HEMOLYTIC ANEMIA



*C1q Targeting Red Blood Cells*

C1q bound to antibody coated RBC  
Annexon data on file

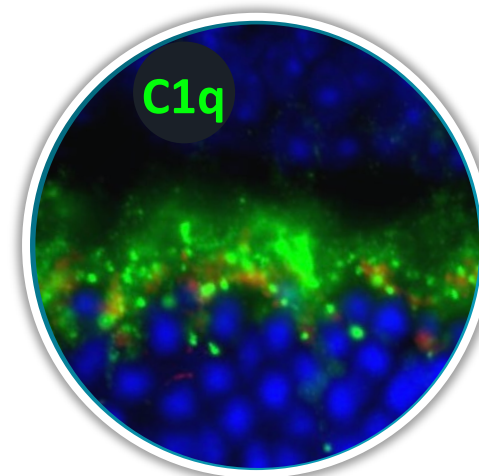
## HUNTINGTON'S



*C1q Targeting Striatal Synapses*

Jiao, et al., 2018 Mol Neurodegen 14:45

## GEOGRAPHIC ATROPHY



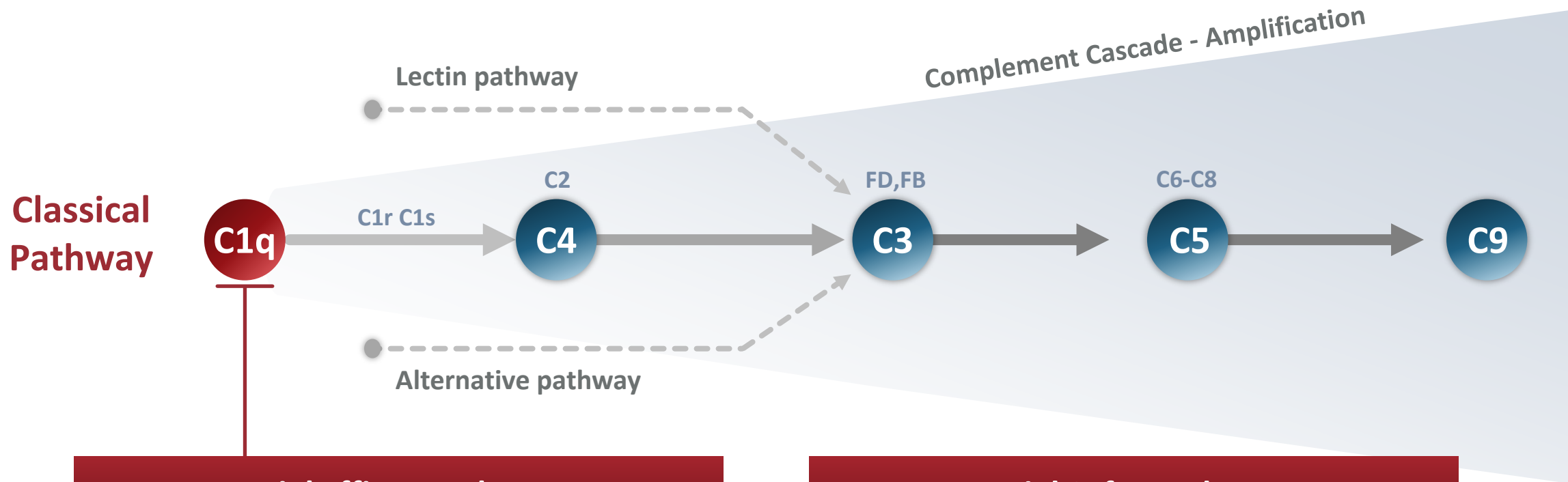
*C1q Targeting Photoreceptor Synapses*

C1q bound to photoreceptor cells synapses in  
aged mice: Annexon data on file



# Inhibiting C1q Shuts Down Entire Classical Complement Pathway

Blocks C1q binding to tissues and downstream activation of C4, C3, C5 and C9



## Potential Efficacy Advantages

- ✓ Anti-C1q stops the cascade before it starts<sup>1</sup>
- ✓ Shuts down all tissue-damaging components of classical pathway (C1q, C4, C3, C5, C9)<sup>1</sup>
- ✓ C1q levels similar to C5, and 10-fold lower than C3<sup>2</sup>

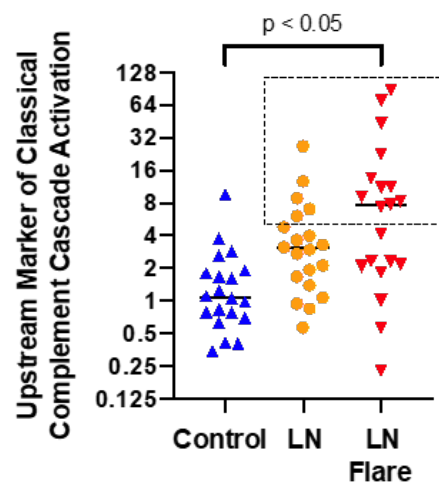
## Potential Safety Advantages

- ✓ Selectively targets C1q in indications where the classical cascade is a key driver
- ✓ Allows normal immune functions of lectin and alternative complement pathways<sup>1</sup>

# Leveraging Biomarkers to Increase Probability of Clinical Success

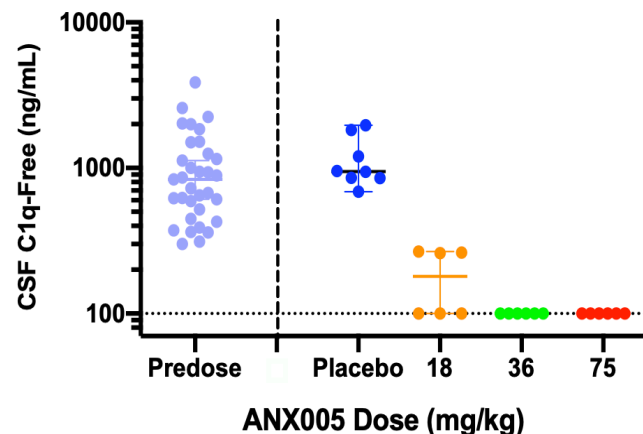
Measuring objective classical complement and disease markers in patients

## Right Indication and Patient Selection



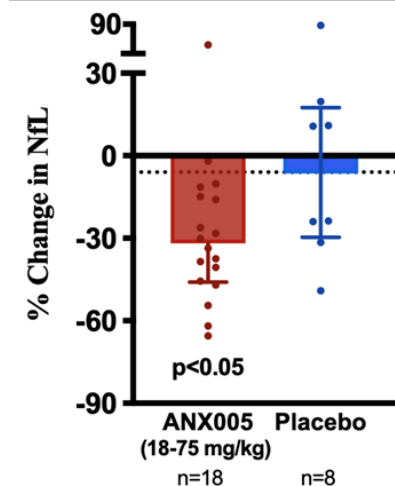
- Target population for initial study
- 25% of lupus nephritis patients
  - 55% of lupus nephritis patients in flare

## Optimal Dose and Dosing Regimen



Inhibition of C1q observed in CSF at 18-75 mg/kg

## Objective Measures of Treatment Effect



High Dose ANX005 (18-75 mg/kg) Led to Significant Early NfL Reduction (Weeks 2 – 4)

Higher Classical Complement Activation in Patients with Lupus Nephritis, Particularly Those in Flare

# IMPROVING PATIENT OUTCOMES IN AUTOIMMUNE DISEASES

- Guillain-Barré Syndrome
- Warm Autoimmune Hemolytic Anemia



# GBS, a Destructive Neuromuscular Autoimmune Disease

Severe disease that causes acute paralysis

## GUILLAIN-BARRÉ SYNDROME (GBS)

Rare orphan disease:

- 12K patients diagnosed annually in North America/Europe
- No approved therapy in the U.S.

**Autoantibody attack on peripheral nerves,**  
triggering complement (C1q) and  
neurodegeneration

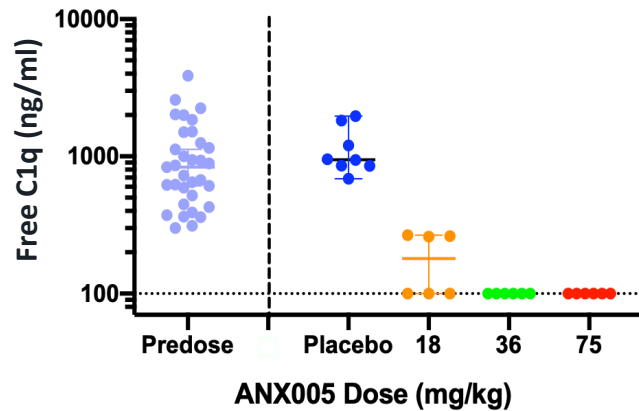
**Anti-C1q blocks autoantibody activation of  
complement** and potentially prevents disability





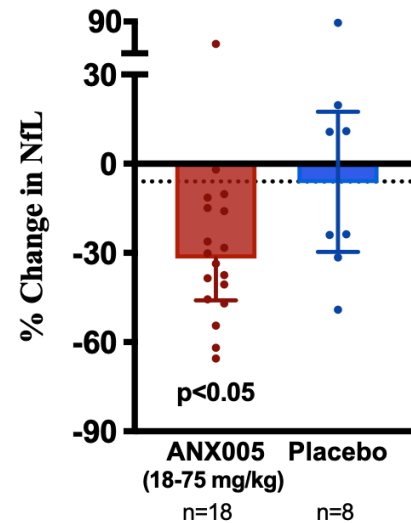
# ANX005 Well-Tolerated, Achieved Full Target Engagement, Reduced NfL and Prevented Disability in GBS Phase 1b Dose-Ranging Trial

Full Target Engagement in CSF at Higher Doses (18-75 mg/kg)



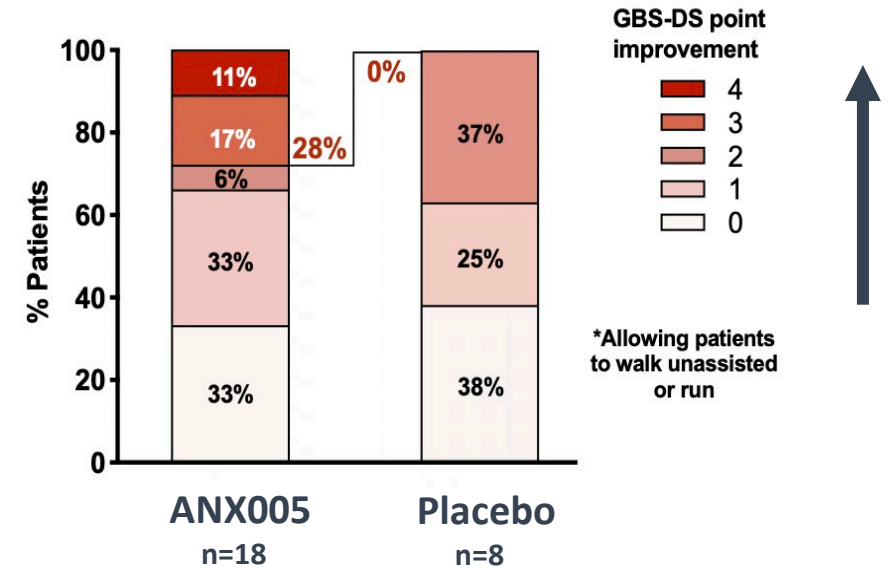
Dose Dependent Decrease of CSF Free C1q

Significant Early NfL Reduction (Weeks 2 – 4)



High Dose ANX005 (18-75 mg/kg) vs Placebo

28% of High Dose Patients Improved by  $\geq 3$  pts on GBS-Disability Scale by Wk 8



High Dose ANX005 (18-75 mg/kg) vs Placebo



# Ongoing GBS Phase 2/3 Trial with ANX005

Fast Track and Orphan Drug designations granted

Placebo (n=~60)

ANX005 30 mg/kg (n =~60)

ANX005 75 mg/kg (n =~60)

Single Dose Treatment

- Randomized, double-blind trial (N=~180)
- Primary endpoint: GBS Disability Scale
- Patients stratified for baseline muscle strength and time from symptom onset
- Data expected 2023

# Targeting Life Threatening RBC Autoantibody Attack in wAIHA

## WARM AUTOIMMUNE HEMOLYTIC ANEMIA (wAIHA)

Autoantibodies attack and destroy RBCs, resulting in anemia, can develop rapidly or gradually

- ~30,000 patients globally
- No approved therapy in U.S.

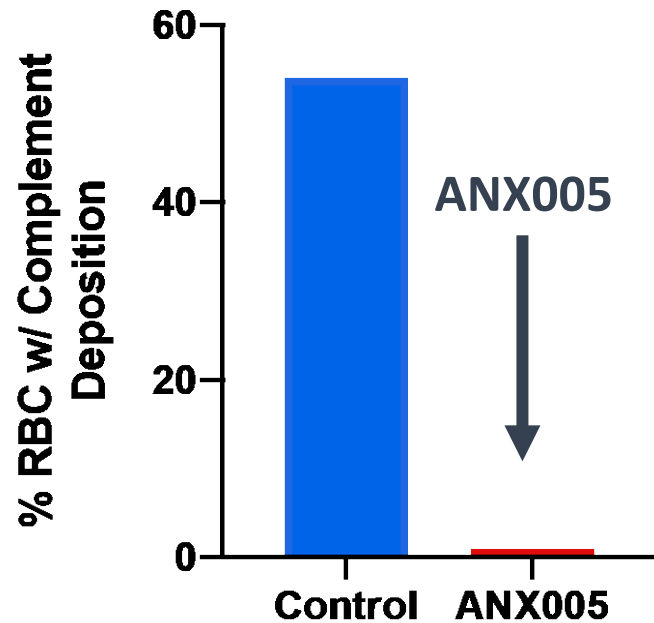
Complement activation amplifies RBC destruction in certain patients

Targeted strategy to select patients who meet specific biomarker criteria of complement activation



# Antibody-Mediated Complement Activation in wAIHA Patient Sera – Identifying an Enriched Patient Population

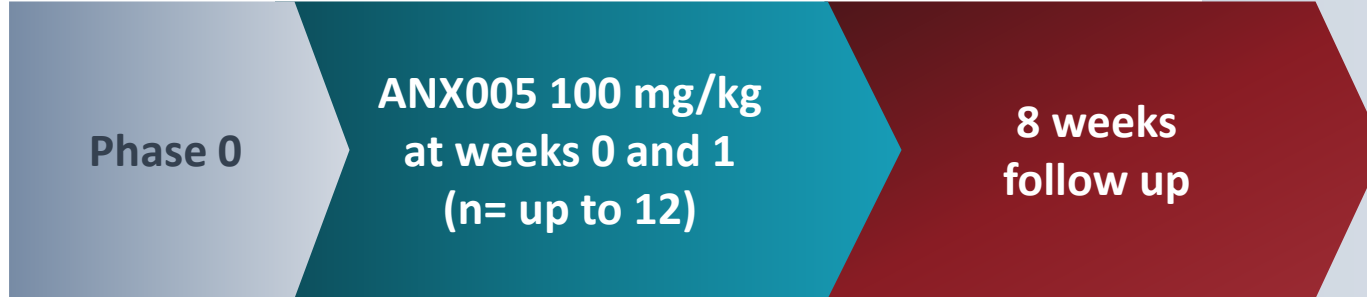
ANX005 inhibits complement activation  
in wAIHA *in vitro* (n=1)



## ACTIVITY FULLY INHIBITED BY ANX005

- Detected complement-activating antibodies in 4 of 12 wAIHA patients (literature suggests 20 – 30 %)
- Activity fully inhibited by ANX005 *in vitro*
- **Precision medicine approach will enable appropriate patient selection for Phase 2 study**

# Planned Phase 2 wAIHA Trial with ANX005



- **Open label trial** (n= up to 12)
- **Using Phase 0 ‘feeder’ study to identify/ select patients for Phase 2**
- **Objective endpoints:** safety, PK/PD, hemolysis markers, improvement in hemoglobin
- **Plan to initiate 1H 2021**

# TACKLING BLINDNESS IN RETINAL DISEASES

- Geographic Atrophy





# Pioneering Treatment of Complement-Mediated Neurodegeneration

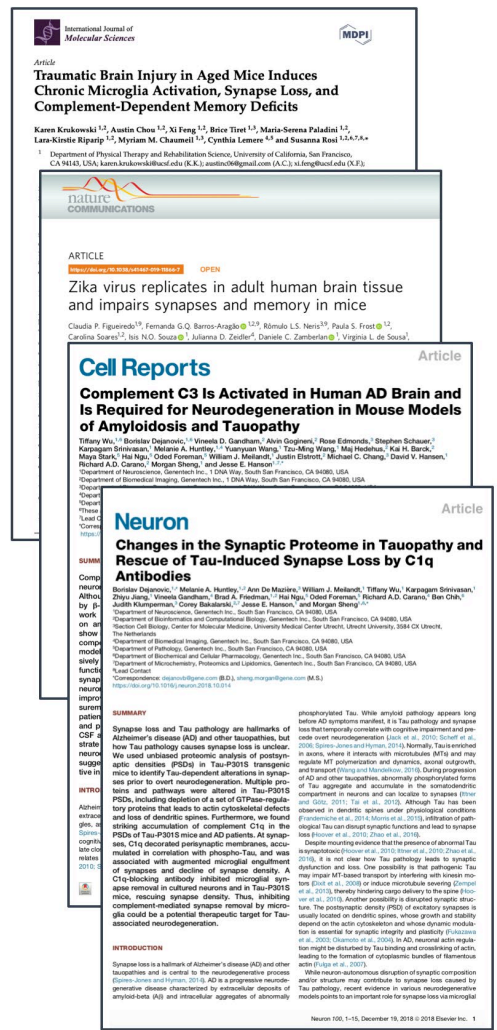
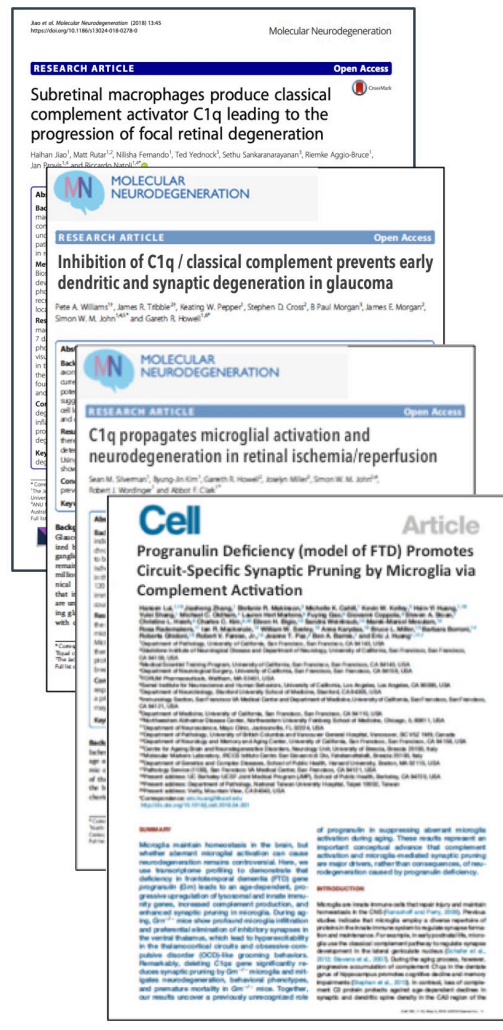
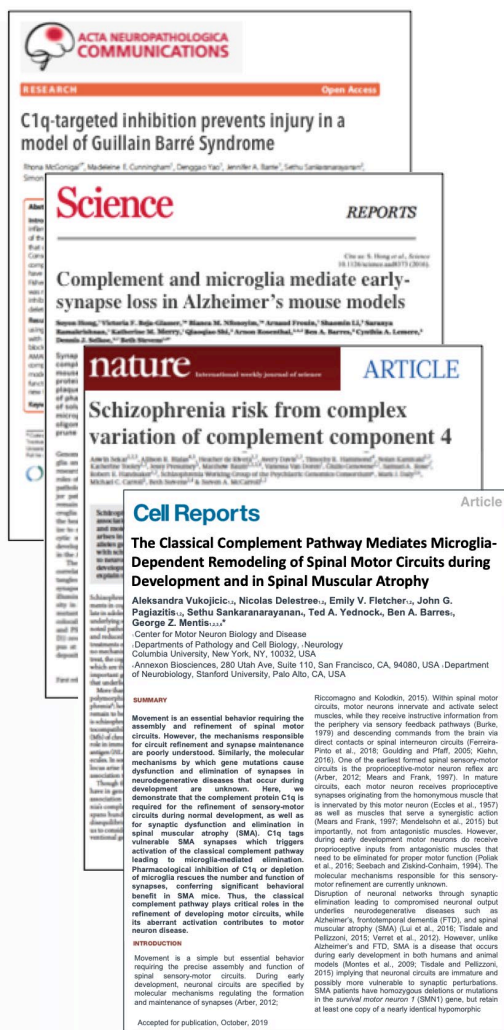
Well-researched role of C1q inhibition to protect against synapse loss and neurodegeneration



# Ben Barres, M.D., Ph.D.

Discoverer of C1q Technology  
Scientific Co-Founder, Annexon

- **Synapse loss is a major driver of neurological disability and blindness**
- **Precedes loss of neurons**
- **Correlates with functional loss / cognitive decline**



# Differentiated Neuroprotective Approach for Geographic Atrophy

Targeting up and downstream complement activity associated with retinal nerve loss

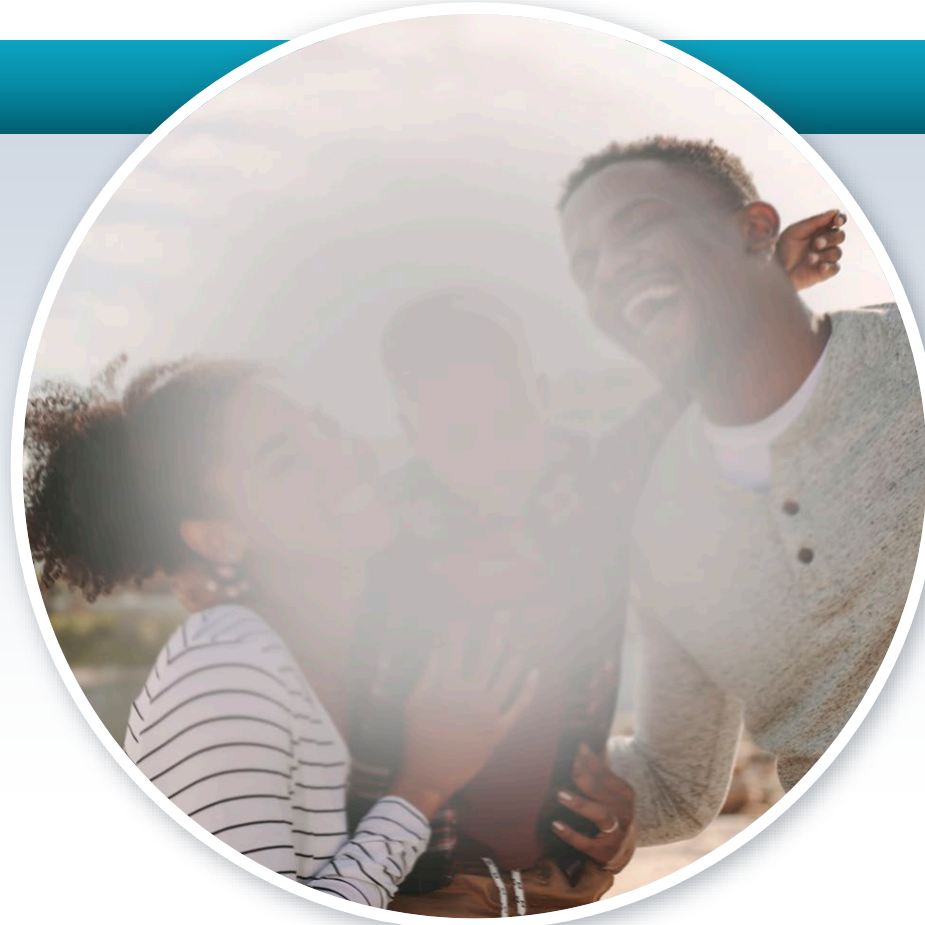
## GEOGRAPHIC ATROPHY (GA)

**Loss of vision** due to loss of neurons  
(photoreceptors)

- **~1 million U.S. patients; ~5 million worldwide**
- **No approved therapies to prevent onset or progression**

**Aberrant C1q activity results in neuronal loss**

**Anti-C1q is neuroprotective in GA models**

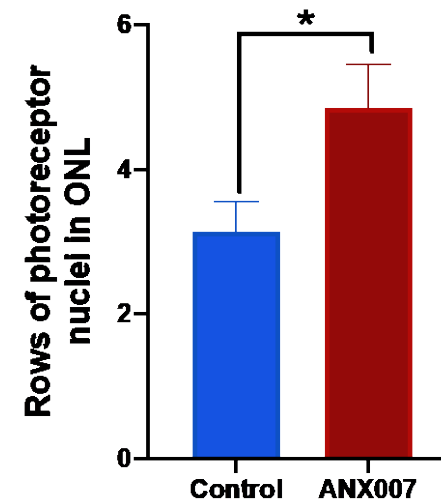


# Intravitreal Administration of Anti-C1q Provides Neuroprotection in a Mouse Model of Photoreceptor Cell Loss / Geographic Atrophy

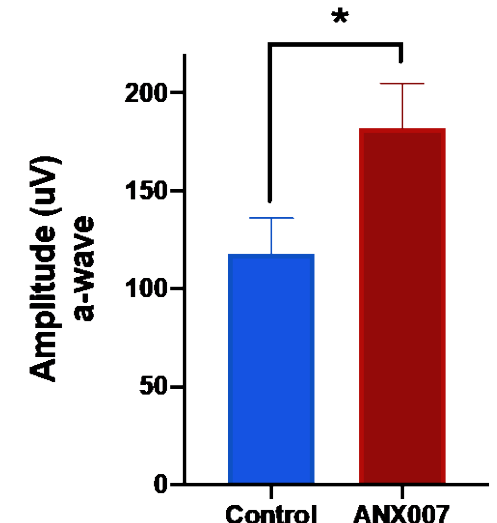
- C1q is locally produced in the retina and a key driver of cell loss
- Upstream activator of C3
- Selective C1q inhibition allows normal function of lectin and alternative pathway

## Intravitreal Administration of ANX007 Protects Photoreceptor Cells and Retinal Function

### Anti-C1q Protects Photoreceptor Cells / Retinal Thickness



### Protects Retinal Function



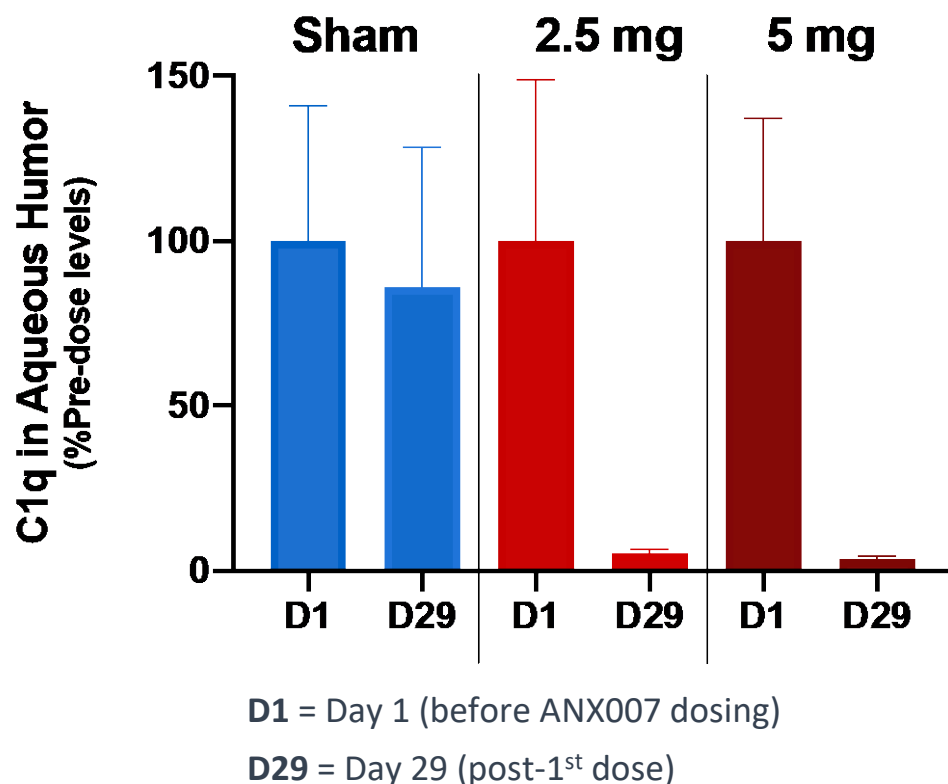
Jiao,, et al., 2018 Mol Neurodegener 13(1):45

\* p < 0.05; \*\*<0.001

# Intravitreal ANX007 Effectively Inhibits C1q in Phase 1b Patients

Full inhibition at low and high doses support monthly or less frequent dosing

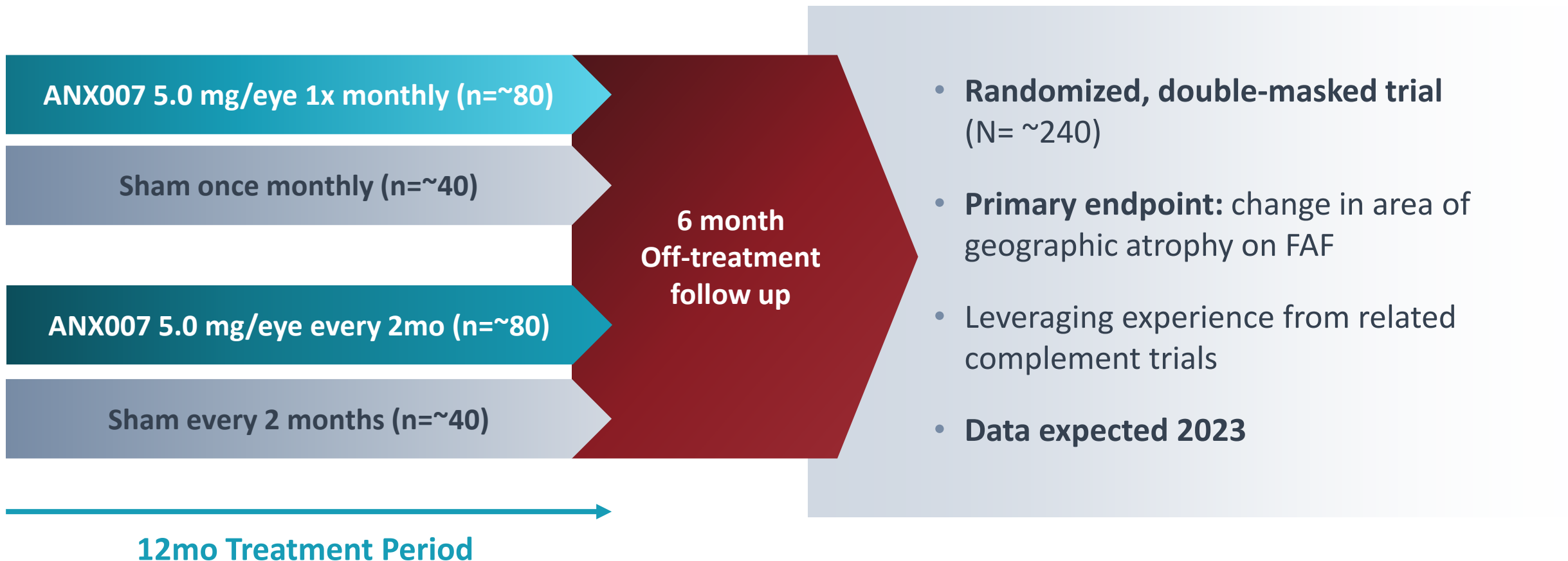
## Free C1q Levels in Aqueous Humor



## ANX007 DATA SUMMARY

- **ANX007 well-tolerated** at all dose levels
- Single intravitreal injection **inhibited C1q in aqueous humor for at least 29 days** at both low and high doses
- Repeat doses, N = 17

# Initiating GA Phase 2 Trial with ANX007 in Q1 2021





# TACKLING PATIENT DISABILITY IN DEVASTATING NEURODEGENERATIVE DISEASES

- Huntington's Disease
- ALS



# Pioneering Classical Complement Approach in Huntington's Disease

Targeting synaptic loss and neuronal death to tackle neurodegeneration

## HUNTINGTON'S DISEASE (HD)

Progressive movement disorder, dementia, psychosis

- ~35,000 U.S. patients (Orphan)
- Subjects have **high** and **sustained NfL** levels

**Aberrant C1q activity drives synaptic loss** and disability

**C1q inhibition** protects against synapse loss and neurodegeneration in HD models

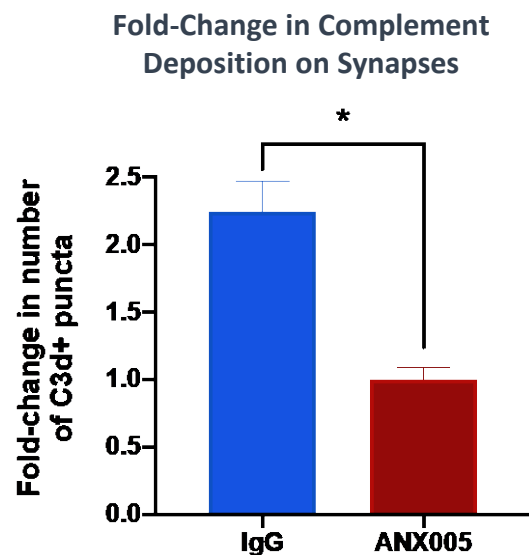




# ANX005 Reduced Key Markers of Disease Activity in HD Mice

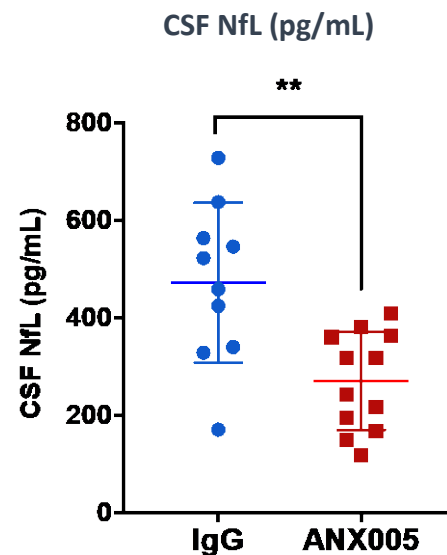
Decreased Complement Activation on Synapses, CSF NfL and Synapse Loss

## Decreased Complement Activation on Synapses



Annexon data on file; Collaboration w/ Dan Wilton and Beth Stevens, Harvard

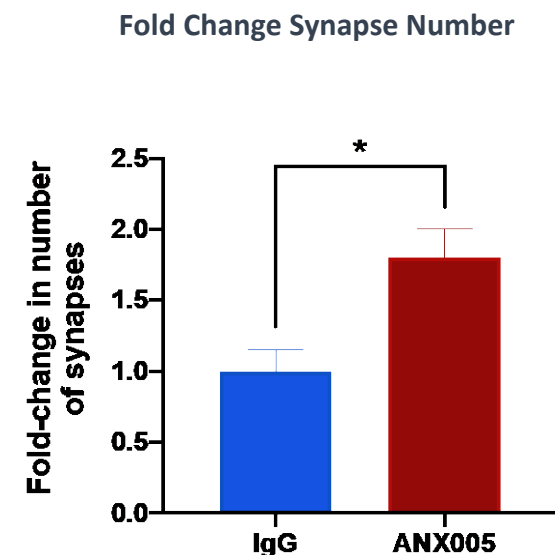
## Decreased Levels of CSF NfL



Annexon data on file. Study run in R6/2 model

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*\*  $p < 0.0001$

## Protection Against Synapse Loss



Annexon data on file; Collaboration w/ Dan Wilton and Beth Stevens, Harvard

# Ongoing HD Phase 2 Trial with ANX005

Leveraging biomarkers to inform next stage of development and future neuro indications



- **Open label trial** (N= ~24)
- **Objective endpoints:** Safety, C1q target engagement, and NfL reduction from baseline
- Development informed by large natural history cohorts
- **Initial data expected 2H 2021**

# Targeting Downstream Neuronal Loss in ALS

Only upstream approach targeting both CNS and PNS aspects of the disease

## AMYOTROPHIC LATERAL SCLEROSIS (ALS)

Progressive weakness of limb and respiratory muscles

- ~30,000 patients globally (Orphan)
- Subjects have high baseline NfL levels

Aberrant C1q activity potentially drives synaptic/ NMJ loss and disability

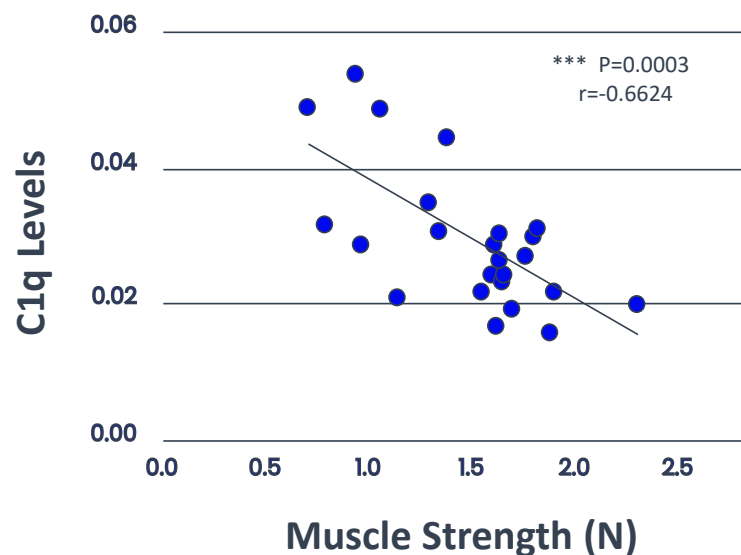
Strong preclinical data supporting anti-C1q approach





# C1q Deposition Correlated w/ Muscle Weakness in Mouse Model and Preceded Denervation in ALS Patients; NfL Elevated w/ Disease

## C1q Levels in NMJ of ALS Mouse Model Correlate with Weakness



# Planned ALS Phase 2 Trial with ANX005

Leveraging biomarkers to inform next stage of development and future neuro indications



- Open label trial (N= ~24)
- **Objective endpoints:** Safety, PK/PD, C1q target engagement, and NfL reduction from baseline
- Targeting all forms of ALS
- **Plan** to initiate early 2021
- **Initial data expected 2H 2021**

# Potential to Expand Platform Across A Breadth of Diseases

Current indications and future opportunities in both orphan and large patient populations

## AUTOIMMUNE

**wAIHA** (warm Autoimmune Hemolytic Anemia)

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**CAD** (Cold Agglutin Disease)

**Lupus Nephritis**

**Bullous Skin Diseases**

**HIT** (Heparin Induced Thrombocytopenia)

**Rheumatoid Arthritis**

**Crohn's Disease**

**GBS** (Guillain-Barré Syndrome)

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**CIDP**  
(Chronic Idiopathic Demyelinating Polyneuropathy)

**MMN** (Multifocal Motor Neuropathy)

**PMS** (Progressive Multiple Sclerosis)

**ON** (Optic Neuritis)

## NEURODEGENERATION

**HD** (Huntington's Disease)

**ALS** (Amyotrophic Lateral Sclerosis)

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**FTD** (Frontal Temporal Dementia)

**SMA** (Spinal Muscular Atrophy)

**AD** (Alzheimer's Disease)

**TBI** (Traumatic Brain injury)

## OPHTHALMOLOGY

**GA** (Geographic Atrophy)

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**GLA** (Glaucoma)

■ Current Indications

# Poised to Drive Value in 2021 and Beyond



- **Targeting aberrant C1q / classical pathway activation** to treat devastating tissue damage in the diseases we're pursuing
- **Broad platform potential in orphan and large patient populations** in autoimmune, neurodegenerative and ophthalmic diseases
- **Great momentum and well-resourced to deliver** on 2021 priorities
  - **Execute 5 clinical trials**
  - **Report initial clinical data from 4 diverse trials**
  - **Advance to IND** next generation small molecule and mAB drug candidates





**THANK YOU**