Interim Data for KYSA-6 Phase 2 Clinical Trial of KYV-101 in Generalized Myasthenia Gravis

Conference Call

October 29, 2025

Cindy
MG Warrior

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This presentation includes results from named-patient basis access. Similar to expanded access or compassionate use in the United States, "IH" or "Individueller Heilversuch," also known as "named-patient basis access," is a regulatory scheme in Germany that allows for the supply of a treatment that has not received marketing authorization for an individual patient in response to a request by the treating physician on behalf of the named patient. This option can be pursued for the expected benefit of a patient who has exhausted all available treatment options, under the discretion of the treating physician, with the patient's consent. The use of KYV-101 in the IH settings is not a substitute for, or intended to replace, our clinical trials. The goal is not to assess the effectiveness of a potential therapy, but rather to provide an individual patient with a possible efficacious approach when all other treatment options have failed, as determined by the patient's physician. While we do not expect to be able to use the results from these activities as the basis for approval in our applications for marketing approval to the U.S. Food and Drug Administration (FDA) or other foreign regulatory agencies, we believe such activities may provide additional clinical insights beyond highly focused clinical trials in specific geographies.

Introduction

Warner Biddle – Chief Executive Officer

Today's Agenda

- Introduction
- Interim Phase 2 gMG Data Results
- Neuroimmunology Franchise and Future Growth Opportunities
- Q&A

Speakers

Warner Biddle
Chief Executive Officer

Naji Gehchan M.D., MSc, MBA
Chief Medical
& Development Officer

Q&A

Marc Grasso M.D.
Chief Financial Officer

Sri Muppidi M.D.
Stanford Medicine

Despite Available Treatment Options, High Disease Burden Remains in Generalized Myasthenia Gravis (gMG)

- MG is a B-cell and antibody-mediated neuromuscular autoimmune disease that causes fluctuating muscle weakness and fatigue[1,2]

Novel therapies are needed that minimize or eliminate symptoms of disease while reducing risks associated with chronic immunosuppression

Current State of Treatment for Patients With gMG

- Inadequate symptom control[3,4]
- Few reach minimal symptom expression (MSE)[1,5-6]
- Majority require ongoing immunosuppressant therapy[1-4]
- Costly and chronic treatment options[1,7]

1. Howard Jr JF, et al. *Lancet Neurol*. 2021;20(7):526-536. 2. Vu T, et al. *NEJM Evid*. 2022;1(5):EVIDoa2100066. 3. DeHart-McCoyle M, et al. BMJ Med. 2023;2(1):e000241. 4. Dewilde S, et al. *BMJ Open*. 2023;13(1):e066445. 5. AstraZeneca. ULTOMIRIS® efficacy data from CHAMPION-MG. https://ultomirishcp.com/gmg/efficacy. Accessed 20 Aug 2025. 6. Vu T, et al. AAN 2025. S34.002. 7. Data on File, Kyverna Therapeutics.

KYV-101: Upstream Targeting at the Disease Source – A Fundamentally Different Approach to Treating gMG

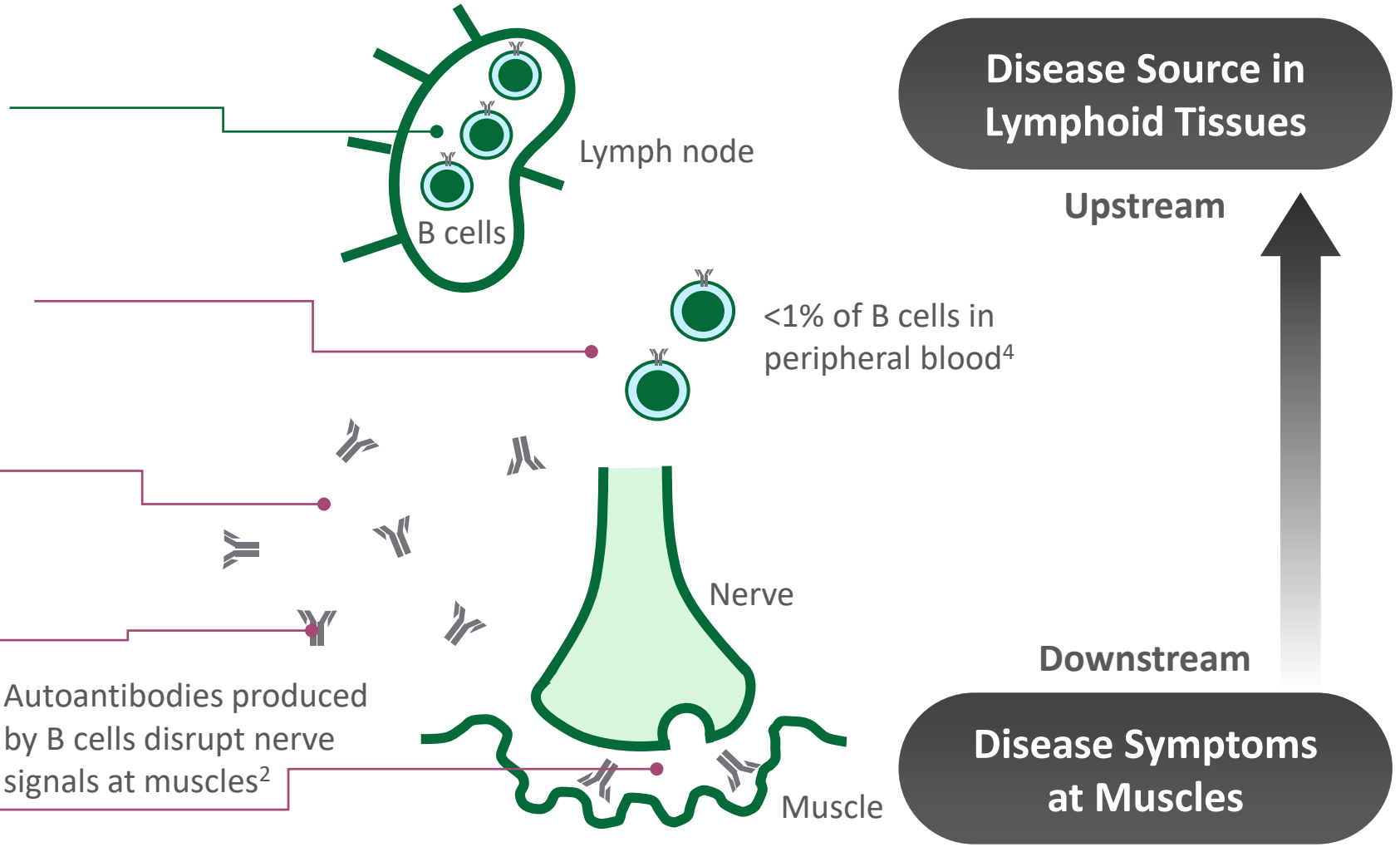
KYV-101 deeply depletes B cells including in tissues[1]

B-cell targeting mAbs cannot fully penetrate tissues and primarily target peripheral blood B cells[1]

FcRn inhibitors transiently reduce autoantibody accumulation[2]

Complement inhibitors transiently inhibit autoantibody immune activity[2]

Acetylcholinesterase inhibitors increase concentration of nerve signaling molecules[3]



FcRn, neonatal fragment crystallizable receptor; mAb, monoclonal antibody.

1. Tur C, et al. *Ann Rheum Dis*. 2025;84(1):106-114. 2. DeHart-McCoyle M, et al. *BMJ Med*. 2023;2(1):E241. 3. Myasthenia Gravis. NIH – NINDS. https://www.ninds.nih.gov/health-information/disorders/myasthenia-gravis. 4 Sender R, et al. *Proc. Natl. Acad. Sci. U.S.A.* 2023;120 (44) e2308511120.

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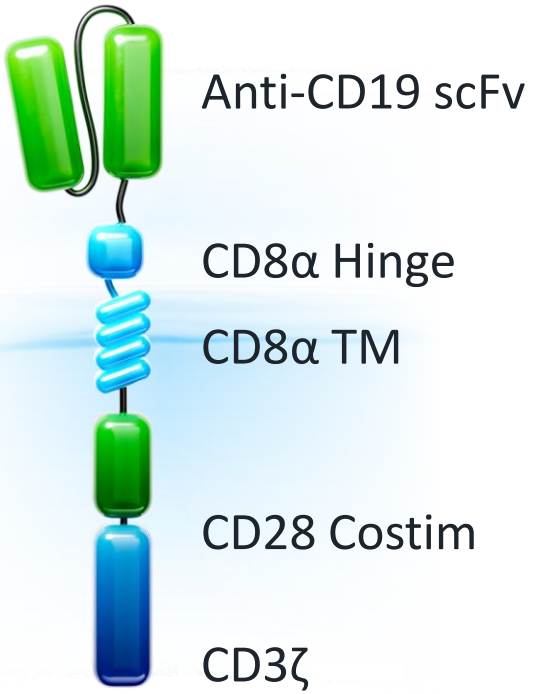
KYV-101: Unique CAR Designed for Potency & Tolerability in Autoimmune Diseases

Fully Human Autologous CD19 CAR T With CD28 Costim

KYV-101 CAR Construct[1,2]



- More than 100 patients dosed with KYV-101 across multiple indications; no high-grade CRS or ICANS have been observed[3]
- KYV-101 has been shown to induce deep and broad depletion of blood- and tissue-resident B cells,[4,5] which are an upstream therapeutic target in MG
- Initial 3 patients with gMG treated under expanded access pathway have achieved stable MSE with no background immunosuppressive therapies ongoing for 15 to 24 months[3]

CAR, chimeric antigen receptor; CRS, cytokine release syndrome; gMG, generalized myasthenia gravis; ICANS, immune effector cell-associated neurotoxicity syndrome; MG-ADL, myasthenia gravis activities of daily living; MSE, minimal symptom expression; TM, transmembrane.

1. Brudno JN, et al. *Nat Med.* 2020;26:270-280. 2. Alabanza L, et al. *Mol Ther.* 2017;25:2452-2465. 3. Data on File, Kyverna Therapeutics. 4. Minopoulou I, et al. *Ann Rheum Dis.*2025;84(3):e4-e7. 5. Albach FN, et al. *Rheumatology*. 2025;64(6):4075-4077.

Compelling Phase 2 Results Reinforce KYV-101's Potential to Change the Treatment Paradigm in gMG

Only KYV-101 Has the Potential to Deliver ALL Four Components of a Paradigm-Shifting Therapy

1. Unprecedented Disease Control + Manageable Safety Profile
2. More Patients to Minimal Symptom Expression (MSE)
3. Opportunity to Remove Background Therapies
4. Single-Dose Treatment

MG-ADL, myasthenia gravis activities of daily living; QMG, quantitative myasthenia gravis score.

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Changing the Treatment Paradigm in gMG

Naji Gehchan, MD, MSc, MBA – Chief Medical and Development Officer

KYSA-6: Phase 2/3 Study of KYV-101 in gMG

Phase 2 design: Open-label, single-arm, multicenter study

N = 6

- Age 18 to 75 years
- Diagnosis of gMG, Class IIB-IV per MGFA criteria
- Autoantibodies to AChR, MuSK, or LRP4
- MG-ADL ≥6
- Failed ≥2 immunosuppressive/ immunomodulatory therapies OR failed ≥1 immunosuppressive therapy and required chronic plasmapheresis or IVIg to control symptoms

KYV-101

Cy/Flu lymphodepletion

+

Single infusion of 1×10^8 CAR T cells

Primary endpoints

- MG-ADL at 24 weeks
- Adverse events

Key secondary endpoints

- QMG and MGC scores
- PK/PD

18-month follow up

Interim analysis of ongoing phase 2 study with data cutoff of October 3, 2025

AchR, acetylcholine receptor; Cy/Flu, cyclophosphamide and fludarabine; gMG, generalized myasthenia gravis; LRP4, low-density lipoprotein receptor-related protein 4; MG-ADL, myasthenia gravis Activities of Daily Living; MGC, Myasthenia Gravis Composite; MGFA, Myasthenia Gravis Foundation of America; MuSK, muscle-specific kinase; QMG, Quantitative Myasthenia Gravis.

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Patients Treated With KYV-101 Had Moderate to Severe gMG

Characteristic	N=6
Age, mean years (range)	45.5 (21-62)
Sex, female | male, n (%)	5 (83%) | 1 (17%)
Duration of MG, mean years (range)	5.3 (1.7-13.3)
Total outcome score, mean (range)	
MG-ADL	11.2 (7-16)
QMG	17.3 (9-28)
MGC	21.8 (15-30)
MGFA Class IIIb | Class IV at screening, n (%)	4 (67%) | 2 (33%)
AChR | MuSK-positive at screening/historically, n (%)	5 (83%) | 1 (17%)
Prior therapies, n (%)	
AChE inhibitors	6 (100%)
NSISTs	6 (100%)
FcRn and/or complement inhibitors	5 (83%)
Steroids	6 (100%)
IVIG and/or PLEX	4 (67%)
Rituximab	3 (50%)

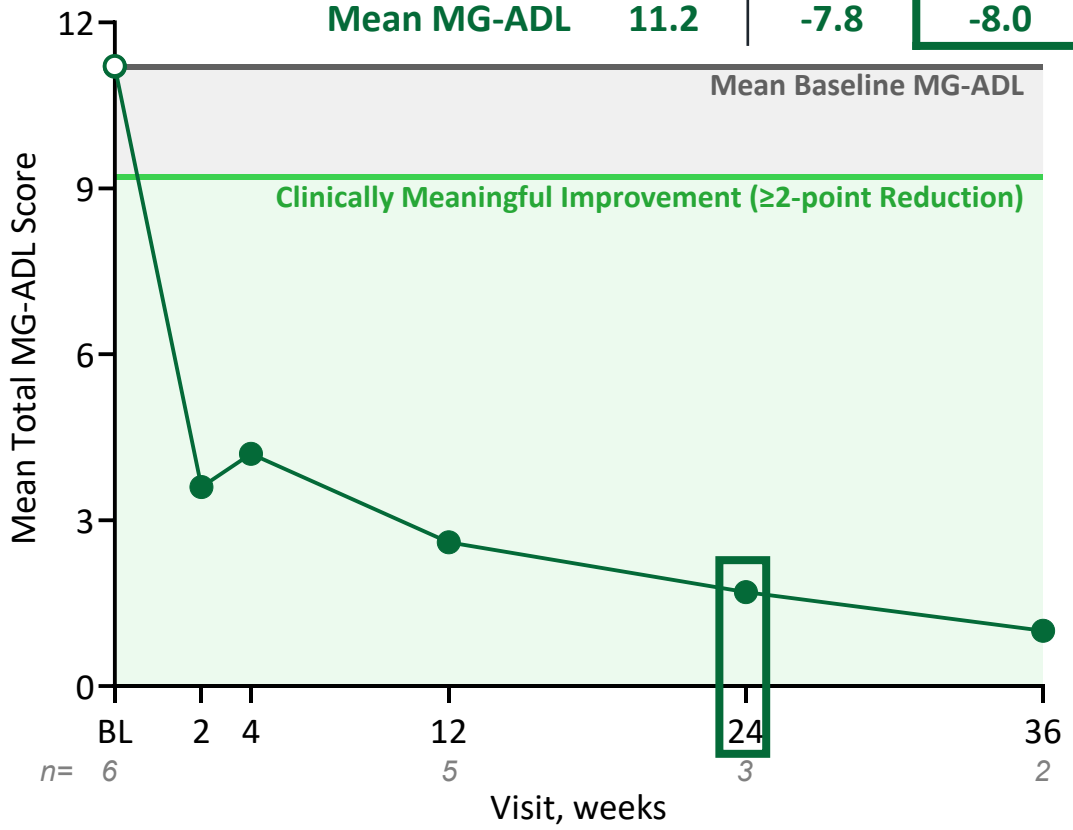
- All patients had robust CAR T-cell expansion and B-cell depletion

AChE-I, acetylcholinesterase inhibitor; AChR, acetylcholine receptor; FcRn, neonatal fragment crystallizable receptor; IVIG, Intravenous Immunoglobulin; MG-ADL, myasthenia gravis activities of daily living; MGC, Myasthenia Gravis Composite; MGFA, MG Foundation of America; MuSK, muscle-specific kinase; NSIST, nonsteroidal immunosuppressive therapy; PLEX, plasma exchange; QMG, quantitative myasthenia gravis.

KYV-101 Demonstrated Rapid, Robust, and Sustained Reductions in MG-ADL and QMG

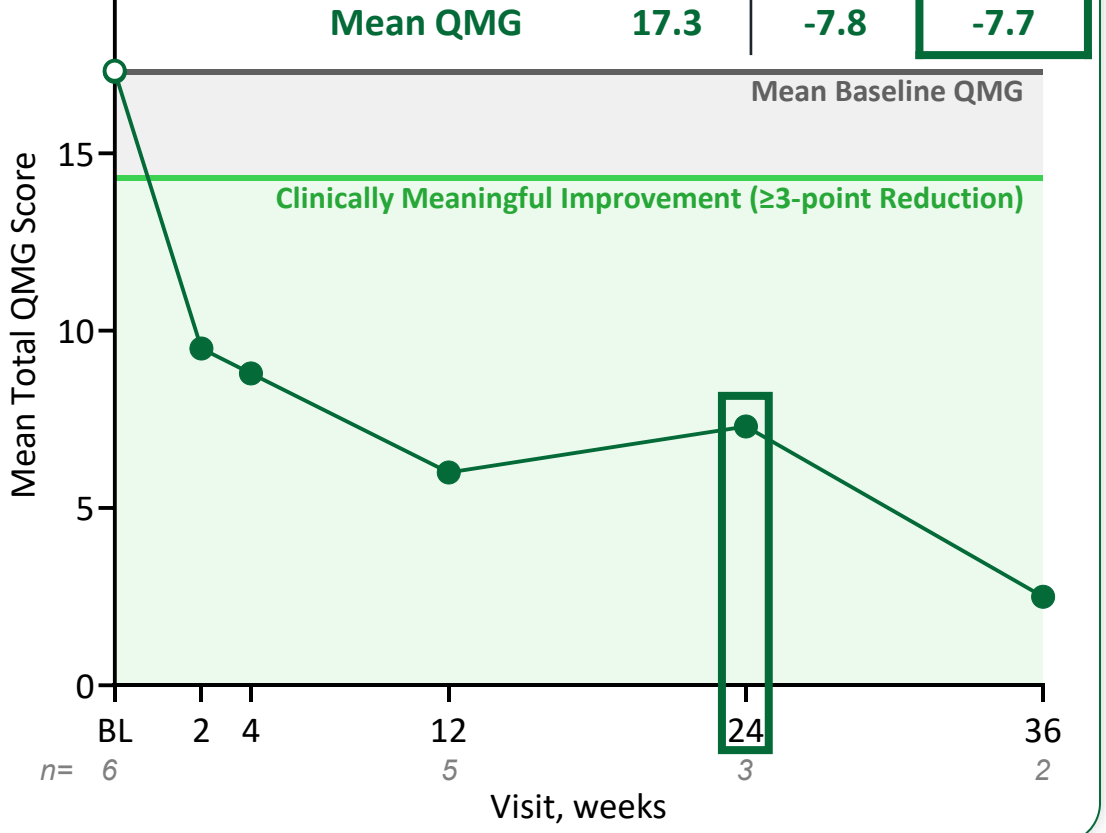
MG-ADL score

	Baseline	Change from BL	
		Week 2	Week 24
Mean MG-ADL	11.2	-7.8	-8.0



QMG score

	Baseline	Change from BL	
		Week 2	Week 24
Mean QMG	17.3	-7.8	-7.7



Data cutoff: October 3, 2025.

BL, baseline; MG-ADL, myasthenia gravis activities of daily living; QMG, quantitative myasthenia gravis.

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After a Single Dose of KYV-101, Patients Achieved Substantial and Clinically Meaningful Reductions in MG Outcome Scores and Treatment Burden

Substantially Improved MG-ADL, QMG, and MGC

- **100% clinically meaningful response by MG-ADL & QMG**
  (Reduction of ≥2 by MG-ADL, ≥3 by QMG)
- **100% responders by MG-ADL**
  (≥3 point reduction by MG-ADL)
- **67% reached MSE (MG-ADL of 0 or 1)**
  (n=3 with ≥24 weeks follow-up)
- **100% clinically meaningful response by MGC with -12.0 mean reduction at 24 weeks**
  (Reduction of ≥3 by MGC)

Reduced Treatment Burden

- **100% free of nonsteroidal immunosuppressants (NSISTs), high-dose steroids (>10 mg), and FcRn and complement inhibitors up to 24 weeks**
  - Of the 6 patients, 5 remained free of these agents as of their last follow-up

Data cutoff: October 3, 2025.

BL, baseline; FcRn, neonatal fragment crystallizable receptor; MG-ADL, myasthenia gravis activities of daily living; MGC, Myasthenia Gravis Composite; MSE, minimal symptom expression; QMG, quantitative myasthenia gravis.

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KYV-101 was Well-Tolerated with No High-Grade CRS and No ICANS Observed

Safety	Patients (n=6)
CRS (any Grade), n (%)	6 (100)
Grade 1	4 (67)
Grade 2	2 (33)
ICANS (any Grade), n (%)	0 (0)
Grade 3/4 TEAEs, n (%)	3 (50)
Neutropenia	3 (50)
Lymphopenia	1 (17)
Lymphocyte count decreased	1 (17)
Any treatment-related serious AE, n (%)	1 (17)

- No ICANS observed
- CRS was low-grade and manageable in all patients
  - 4 of 6 patients only experienced fever (Grade 1 CRS)
- 3 patients with expected AEs associated with lymphodepletion and CAR T-cell therapy
  - 2 patients had transient Grade 3/4 neutropenia that resolved within 10 days of infusion
  - 1 Grade 4 neutropenia SAE was manageable with G-CSF, not associated with infections, and had improved to Grade 1 by data cutoff

Data cutoff: October 3, 2025

CRS and ICANS graded using ASTCT criteria; other AEs graded using CTCAE criteria.

AE, adverse event; ASTCT, American Society for Transplantation and Cellular Therapy; CTCAE, Common Terminology Criteria for Adverse Events; CRS, cytokine release syndrome; G-CSF, granulocyte colony-stimulating factor; ICANS, immune effector cell-associated neurotoxicity syndrome; TEAE, treatment-emergent adverse event.

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Well-Positioned to Achieve Best-in-Class Results in gMG with Phase 3 Trial

In 6 patients with moderate to severe gMG, a single dose of KYV-101 resulted in:

Robust, rapid, and sustained improvements regardless of prior biologic exposure

- Reduction of MG disease scores at 24 weeks: -8.0 for MG-ADL and -7.7 for QMG
- 100% responders by MG-ADL score (≥3-point reduction)
- Mean reductions at Week 2: -7.8 for MG-ADL and -7.8 for QMG

At interim readout, most patients at or trending to MSE

- MSE achieved in 2/3 patients with ≥24 weeks of follow-up

100% free of NSISTs, high-dose steroids (>10mg), and FcRn and complement inhibitors up to 24 weeks

Consistent, well-tolerated, and manageable safety profile

FcRn, neonatal fragment crystallizable receptor; MG-ADL, myasthenia gravis activities of daily living; MGC, Myasthenia Gravis Composite; MSE, minimal symptom expression; NSISTs, nonsteroidal immunosuppressants; QMG, quantitative myasthenia gravis.

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Robust Phase 2 Results Strengthen Confidence in Phase 3 Powering Assumptions, Efficient Trial-Size, and Co-primary Endpoint Measurement

Reductions in MG-ADL and QMG **exceeded the magnitude of effect** assumed for Phase 3 co-primary endpoints

Deep, sustained treatment effect was observed at **week 24** - the timepoint of assessment for Phase 3 co-primary endpoints

Interim Phase 2 Results Increase Phase 3 Probability of Success

MG-ADL, myasthenia gravis activities of daily living; QMG, quantitative myasthenia gravis score.

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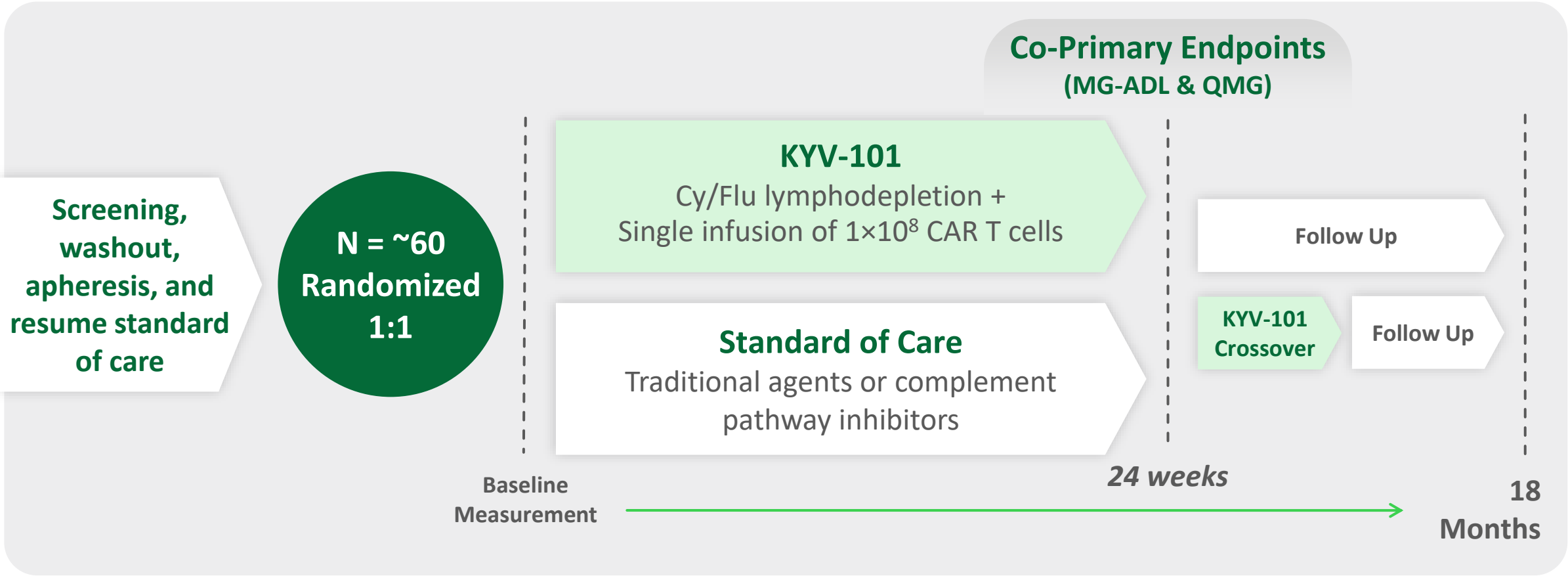
Innovative and FDA-Aligned Registrational Phase 3 Trial Design

~60-patient, global, open-label, randomized controlled Phase 2/3 trial with crossover design



Standard of care may consist of traditional agents (e.g., prednisone, azathioprine, mycophenolate, methotrexate, chronic IVIG/PLEX) or complement pathway inhibitors (e.g., eculizumab, ravulizumab). Anti-CD20 or -CD19 monoclonal antibodies or FcRn inhibitors not allowed as defined in inclusion criteria.

Cy/Flu, cyclophosphamide and fludarabine; FcRn, neonatal fragment crystallizable receptor; MG-ADL, myasthenia gravis activities of daily living; PLEX, plasma exchange; QMG, quantitative myasthenia gravis score.

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Unprecedented MG Clinical Outcome Measures Achieved with a Single Dose of KYV-101

		Approved		Investigational*		
		FcRn Inhibitor[1] *VYVGART®*	**Complement Inhibitor[2,3]** *ULTOMIRIS®*	**CD19 mAb[4,5]** *UPLIZNA®*	**BCMA mRNA CAR T[6]** *Descartes-08*	**KYV-101 CD19 CAR T** (KYSA-6, n=3)
Primary Endpoint		4 weeks	6 months	6 months	3 months	**6 months**
Depth of Response *Mean reduction from baseline to primary endpoint (non-placebo adjusted)*	**MG-ADL Reduction**	~4.6	3.1	4.2	~4.2	**8.0**
	QMG Reduction	~6.2	2.8	4.8	~3.9	**7.7**
% Responders *Patients with ≥3-point MG-ADL improvement from baseline to primary endpoint (non-placebo adjusted)*		~73%	~57%	~79%	~70%	**100%**
Achieve Minimal Symptom Expression (MSE) *% of patients achieving MG-ADL of 0 or 1*		40% *At any point before primary endpoint*	43%	Not reported	33% *6 months to 1 year*	**67%** *At any point before primary endpoint*

Note: These observations are derived from separate clinical settings; comparisons across trials are not based on head-to-head studies.

BCMA, b-cell maturation antigen; FcRn, neonatal fragment crystallizable receptor; mAb, monoclonal antibody; MG-ADL, myasthenia gravis activities of daily living; mRNA, messenger RNA; QMG, quantitative myasthenia gravis score.
*Under investigation in MG.

1. Howard Jr JF, et al. *Lancet Neurol*. 2021;20(7):526-536. 2. Vu T, et al. *NEJM Evid*. 2022;1(5):EVIDoa2100066. 3. AstraZeneca. ULTOMIRIS® efficacy data from CHAMPION-MG. https://ultomirishcp.com/gmg/efficacy. Accessed 20 Aug 2025.
4. Nowak RJ, et al. *N Engl J Med.* 2025;392(23):2309-2320. 5. Nowak RJ, et al. AAN 2025. LS2.002. 6. Vu T, et al. AAN 2025. S34.002.

Accelerating Potential First-in-Class CAR T Franchise with MG and SPS

Warner Biddle – Chief Executive Officer

Potential to Change the Treatment Paradigm in a Large and Growing Market with KYV-101

~80k

U.S. Diagnosed gMG Patients[1,2]

KYV-101 Addressable Market[1,3]

Initial Priority

~12k Patients

15% of total diagnosed

Patients with inadequate response to ≥ 1 biologic*

Total KYV-101 Addressable Market

~40k Patients

50% of total diagnosed

Patients with inadequate response to immunosuppressants

gMG, generalized myasthenia gravis.

*Biologics defined as immunomodulatory therapies including FcRN blockers, complement inhibitors, rituximab or chronic IVIg use.

1. Rodriguez E, et al. *Muscle. Nerve*. 2024;69(2):166-171. 2. Hendricks TM, et al. *Am J Opthamol*. 2019; 205:99-105. 3. Clarivate DRG Report (2024).

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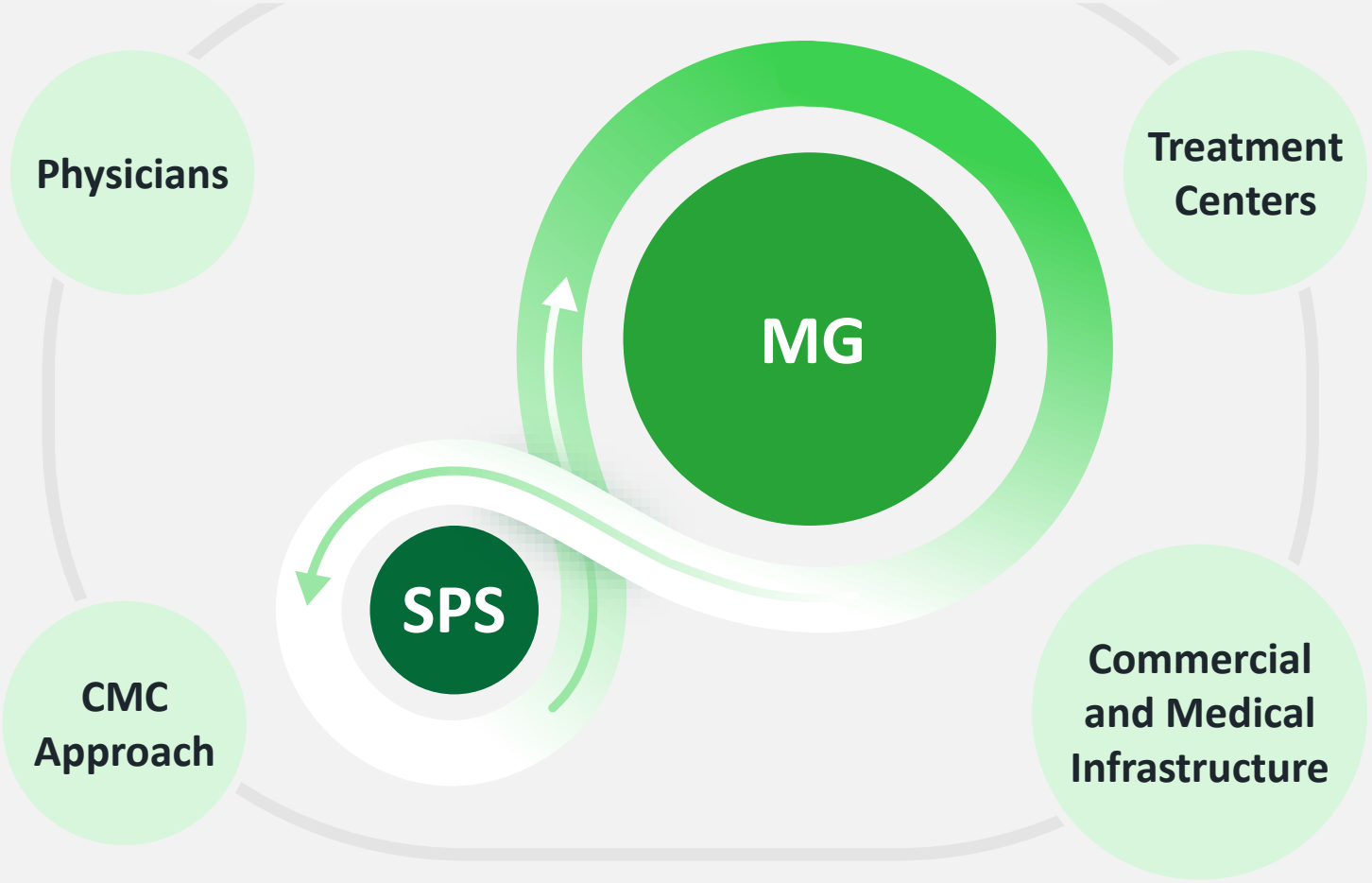
Robust Market Opportunity Supported by Efficient and Scalable Commercial Strategy in Neuroimmunology

Rapid market entry and uptake in MG to be supported by first-mover advantage in stiff person syndrome (SPS) and neuroimmunology franchise synergies

Neuroimmunology Franchise Synergies



Our Focus and Strong Execution Position Kyverna for Future Growth

NEUROIMMUNOLOGY

Accelerating potential first-in-class CAR T franchise, beginning with MG and SPS

MG: Clear path to BLA with FDA-aligned Phase 3 trial that is further de-risked by strong Phase 2 results

SPS: Trial fully enrolled, topline data anticipated 1H 2026; valuable commercial opportunity with no approved therapies, significant unmet need

BROADER PIPELINE

Strategically pursuing expansive opportunity in autoimmune disease

MS and RA: Promising early IIT data reinforce KYV-101's broad potential across multiple autoimmune indications

KYV-102: On track to broaden access with rapid whole-blood manufacturing process; IND filing targeted in Q4 2025

Strong cash position into 2027 supporting SPS BLA filing, MG Phase 3 trial, and pre-launch activities

SPS, Stiff Person Syndrome; MG, Myasthenia Gravis; LN, Lupus Nephritis; MS, Multiple Sclerosis; RA, Rheumatoid Arthritis
BLA, Biologics License Application; IND, Investigational New Drug Application

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Multiple, Value-Creating Near-Term Catalysts

Program	Anticipated Milestones
Stiff Person Syndrome RMAT, ODD	✓ Complete Pivotal Phase 2 Enrollment mid-2025 Report Topline Pivotal Phase 2 Data 1H 2026 BLA filing in 1H 2026
Myasthenia Gravis RMAT, ODD*, FTD†	✓ Confirm Registrational Path with Regulators 1H 2025 ✓ Reported Positive Interim Phase 2 Data Q4 2025 Initiate Patient Enrollment for Phase 3 Registrational Trial by Year-End 2025
Additional Indications	✓ Multiple Sclerosis (MS): Reported Positive Phase 1 IIT Data Q3 2025 ✓ Rheumatoid Arthritis (RA): Reported Positive Phase 1/2 IIT Data Q4 2025 Lupus Nephritis (LN): Report Phase 1 Data in a Peer-Reviewed Publication in 2026
Future Pipeline	File KYV-102 IND Application Q4 2025

✓ COMPLETED

RMAT, Regenerative Medicine Advanced Therapy; ODD, Orphan Drug Designation; FTD, Fast Track Designation.
*EU & US. †Fast track designation does not assure that we will experience a faster development process, regulatory review or regulatory approval process compared to conventional FDA procedures.

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Q&A

Key Takeaways from Today

1. **Kyverna is uniquely positioned to fundamentally change the treatment paradigm in gMG**

   Data reinforces KYV-101's potential to deliver durable, drug-free, disease-free remission with a single dose

2. **Today's unprecedented clinical trial results increase confidence in Kyverna's registrational Phase 3 superiority trial and path to BLA**

3. **Kyverna is well positioned to deliver on a compelling commercial opportunity in gMG, a large and growing market**