

# Administration of rozanolixizumab-noli

## March 2025 ICD-10-PCS Coordination and Maintenance Committee Update

RYSTIGGO® is a neonatal Fc receptor (FcRn) blocker indicated for the treatment of generalized myasthenia gravis (gMG) in adult patients who are anti-acetylcholine receptor (AChR) or anti-muscle-specific tyrosine kinase (MuSK) antibody positive

FcRn=neonatal Fc receptor.



Inspired by patients.  
Driven by science.

Please refer to slide 20 for Important Safety Information.

Please refer to the full Prescribing Information provided by the UCB representative and visit [RYSTIGGOHCP.com](https://www.rystiggohcp.com)

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# Disclaimers

The purpose of this presentation is to provide information about generalized myasthenia gravis and RYSTIGGO<sup>®</sup> (rozanolixizumab-noli).

RYSTIGGO is indicated for the treatment of generalized myasthenia gravis (gMG) in adult patients who are anti-acetylcholine receptor (AChR) or anti-muscle-specific tyrosine kinase (MuSK) antibody positive.

The use of RYSTIGGO in any way other than that specified by the Product Labeling is off-label and cannot be recommended by UCB.





# Agenda

- 01** Myasthenia Gravis Overview
- 02** Mechanism of Disease
- 03** RYSTIGGO®



# Myasthenia Gravis

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# Generalized myasthenia gravis (gMG) is a rare, chronic, autoimmune neuromuscular disease

14 to 20 cases per 100,000 people in the US<sup>1</sup>



gMG is **caused by autoantibodies against the neuromuscular junction (NMJ)** that also activates the complement cascade<sup>2</sup>



This activity leads to NMJ damage and fluctuating muscle weakness and fatigability that **worsens with activity and improves with rest**<sup>2,4</sup>



**Autoantibodies against acetylcholine receptors (AChR) are present in ~85%** of people living with gMG, while **autoantibodies for muscle-specific kinase (MuSK) are found in ~6%** of people<sup>3</sup>



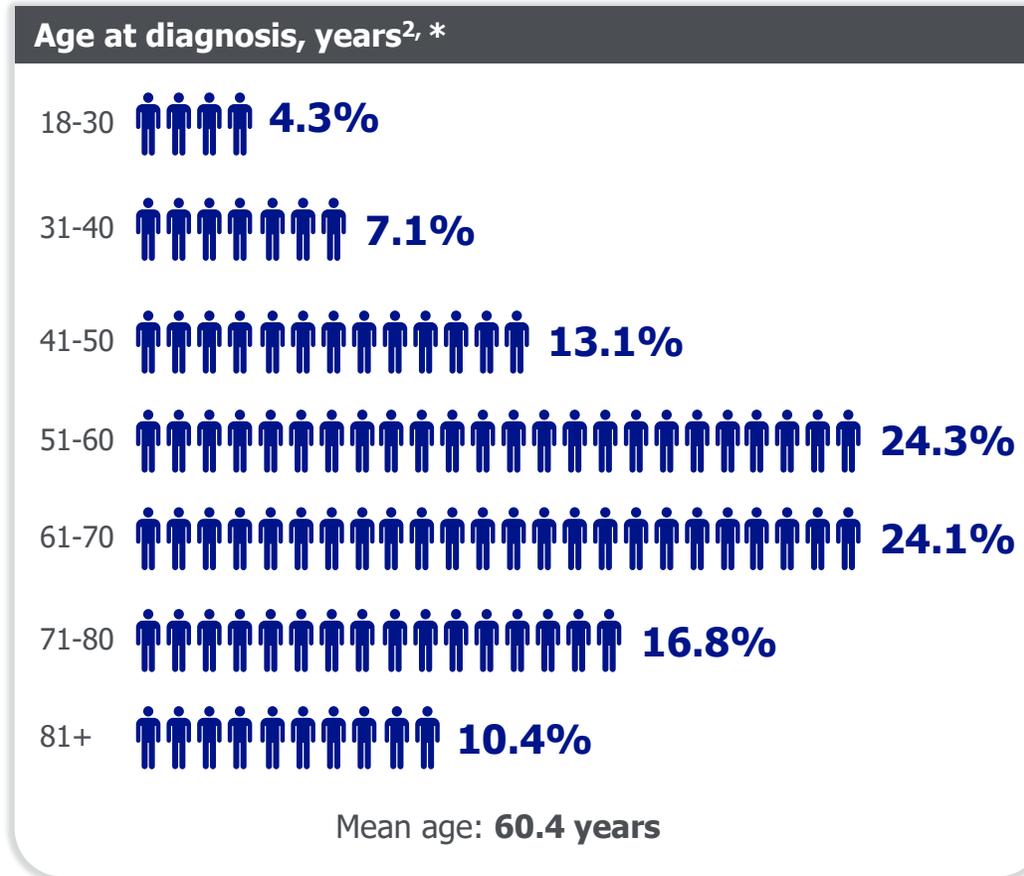
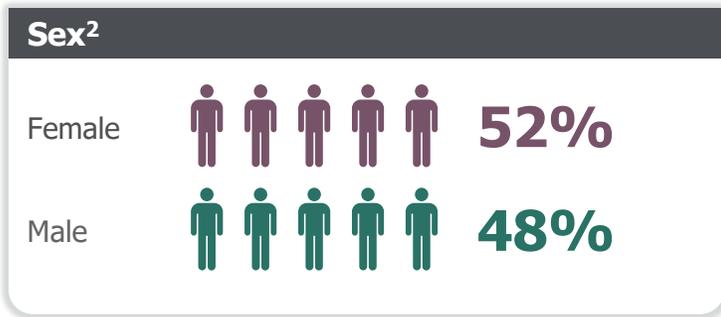
The disease course is **unpredictable, fluctuating, and highly individual to patients**, who struggle with debilitating symptoms<sup>4-6</sup>

There are 2 types of MG: ocular MG and gMG. Ocular MG affects muscles that control the eyes and eyelids. gMG affects muscles throughout the entire body, including the eyes.<sup>7</sup>

**References:** **1.** Howard JF Jr. Clinical overview of MG. Myasthenia Gravis Foundation of America. Accessed June 27, 2022. <https://myasthenia.org/Professionals/Clinical-Overview-of-MG>. **2.** Phillips WD, Vincent A. *F1000Res*. 2016;5:F1000 Faculty Rev-1513. **3.** Lazaridis K, Tzartos SJ. *Front Immunol*. 2020;11(212):1-13. **4.** National Institutes of Health (NIH). Myasthenia gravis fact sheet, 2022. Accessed July 14, 2022. <https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Myasthenia-Gravis-Fact-Sheet>. **5.** Khadiolkar SV, et al. *Neurol India*. 2014;62(5):492-497. **6.** Twork S, et al. *Health Qual Life Outcomes*. 2010;8:129. **7.** gMG Never Rests. Understanding uncontrolled gMG. Accessed August 11, 2022. <https://www.gmgneverrests.com/Understanding#:~:text=As%20a%20chronic%2C%20autoimmune%2C%20neuromuscular,your%20entire%20body>.



# MG demographics vary by age and sex



» gMG symptoms can range from mild worsening to a potentially life-threatening myasthenic crisis<sup>4</sup>

» 42% of patients experience ≥1 serious exacerbation within 10 years after diagnosis<sup>5</sup>

\*In a retrospective cohort analysis of patients with incident MG.

FFS=fee-for-service; gMG=generalized myasthenia gravis; MG=myasthenia gravis.

Serious exacerbation: Defined as MG hospitalization or IVIg/PLEX use

**References:** **1.** National Institutes of Health (NIH). Myasthenia gravis fact sheet, 2022. Accessed June 27, 2022. <https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Myasthenia-Gravis-Fact-Sheet>. **2.** Mahic M, et al. Poster presented at: American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) Annual Meeting; October 7-10, 2020. **3.** Klaisner J, et al. Accessed June 27, 2022. <https://www.milliman.com/en/insight/Myasthenia-Gravis-Patient-Payer-Channel-Distribution>. **4.** Grob D, et al. *Muscle Nerve*. 2008;37(2):141-149. **5.** Mahic M, et al. Poster presented at: American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) Annual Meeting; October 7-10, 2020. Poster 98.



# Muscle-specific kinase autoantibody positive (MuSK Ab+) generalized myasthenia gravis (gMG)

MuSK Ab+ gMG is a rare and clinically severe subtype of gMG caused by IgG4 autoantibodies that affects 5-8% of patients with MG.<sup>1-3</sup> Onset is usually acute with rapid progression of symptoms within a few weeks.<sup>1-3</sup> MuSk Ab+ gMG presents a high burden of disease for patients, and immunosuppression still represents the mainstay of treatment.<sup>1,3</sup>

Treatment of MuSK Ab+ gMG is challenging, with symptomatic treatments used for AChR Ab+ gMG generally unsatisfactory or even deleterious.<sup>3</sup> In patients with MuSK Ab+ gMG:



Current evidence does NOT support the use of thymectomy<sup>6</sup>



Response to AChEIs can be poor; pyridostigmine can exacerbate symptoms<sup>1,4,5</sup>



Rituximab is recommended as an early therapeutic option in patients who have an unsatisfactory response to initial immunotherapy, but it is NOT currently indicated for treatment of gMG<sup>6,7</sup>

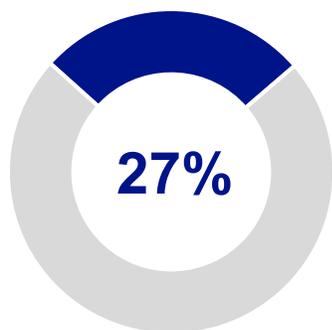
References: 1. Evoli A, et al. Ann NY Acad Sci. 2018;1412:82–89; 2. Borges LS, Richman DP. Front Immunol. 2020;11:707; 3. Rodolico C, et al. Front Neurol. 2020;11:660; 4. Cao M, et al. Front Mol Neurosci. 2020;13:159; 5. Li Y, et al. Ann Transl Med. 2023;11:290; 6. Narayanaswami P, et al. Neurology. 2021;96:114–122; 7. MabThera EU SmPC. [https://www.ema.europa.eu/en/documents/product-information/mabthera-epar-product-information\\_en.pdf](https://www.ema.europa.eu/en/documents/product-information/mabthera-epar-product-information_en.pdf). Accessed June 2023



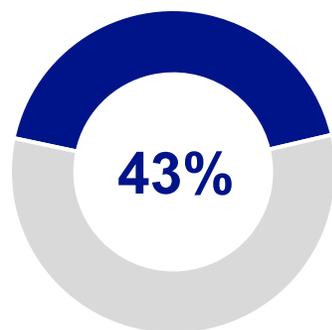
# Despite available treatments, a significant number of patients continue to experience exacerbations

## Percent of patients with $\geq 1$ exacerbations

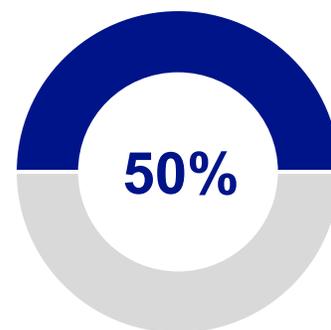
Reported exacerbations while on treatment (N = 6538) up to 10 years post-diagnosis of gMG



**Acetylcholinesterase inhibitor and/or corticosteroids**  
 Mean rate of exacerbations, annualized: 5  
 (n = 6241)



**1st immunosuppressive therapy**  
 Mean rate of exacerbations, annualized: 5.3  
 (n = 2166)



**2nd immunosuppressive therapy**  
 Mean rate of exacerbations, annualized: 7.6  
 (n = 353)

40% of patients continued to experience exacerbations and needed treatment with nonsteroidal IST or biologics, demonstrating the need for new, targeted therapeutics and individualized and flexible treatment algorithms

gMG=generalized myasthenia gravis; IST=immunosuppressive therapy.

**Reference:** Mahic M, et al. Poster presented at: American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) Annual Meeting; October 13-16, 2021. Poster 99.

[Exacerbations – Follow-up Period](#)

[Discontinuation Rates](#)

[Exacerbations – Persistence](#)



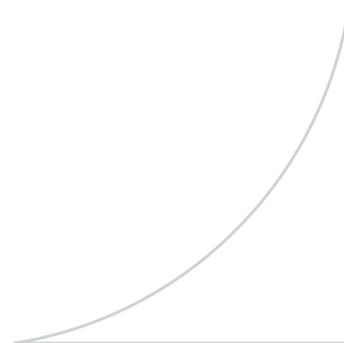
Please refer to the full Prescribing Information provided by the UCB representative and visit RYSTIGGOHCP.com

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# Mechanism of Disease

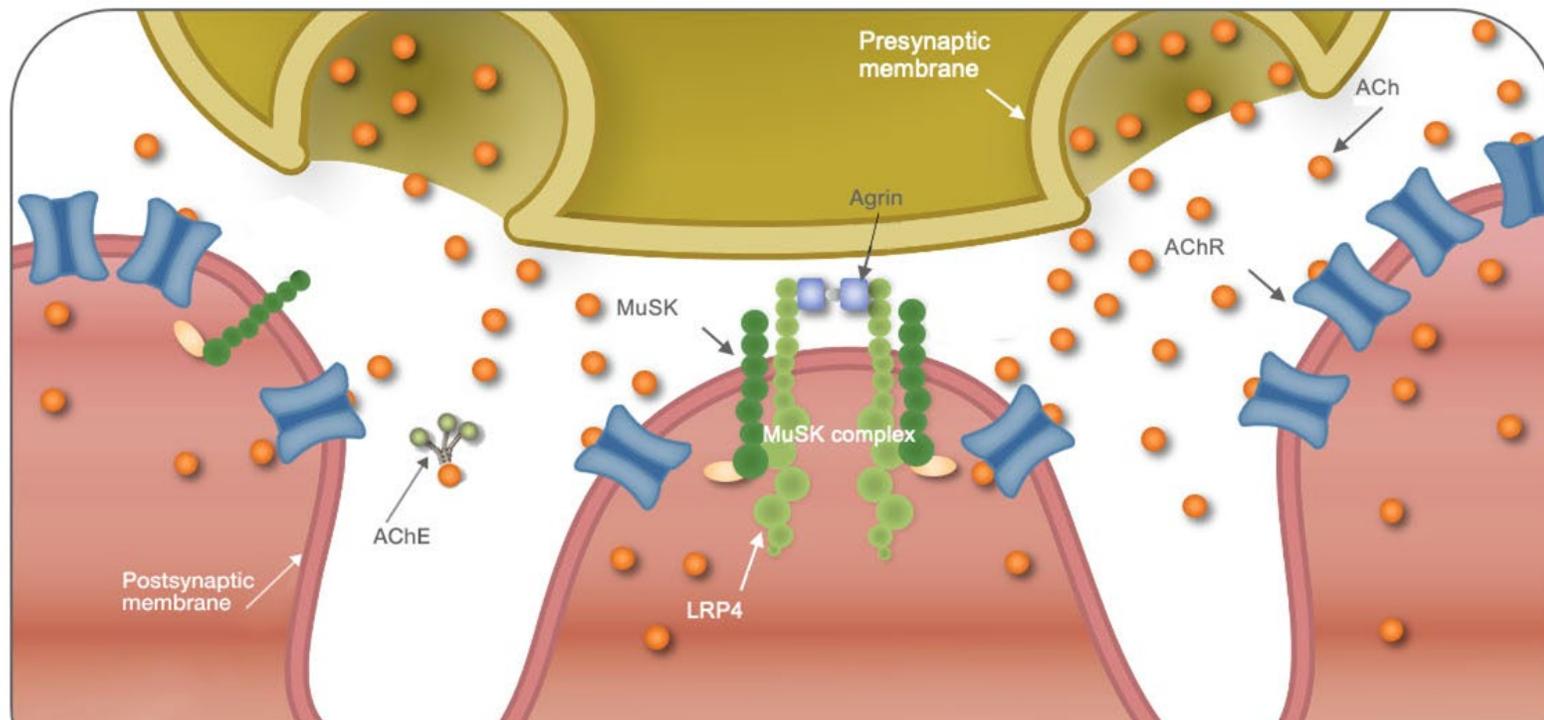
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# Normal neuromuscular transmission at the neuromuscular junction (NMJ) enables muscle contraction

## Healthy Neuromuscular Junction



**Neuromuscular transmission occurs at the NMJ, leading to contraction of skeletal muscles<sup>1</sup>**

- In this process, motor neurons release neurotransmitters, such as ACh, from the presynaptic membrane
- ACh binds to AChRs on the postsynaptic membrane of muscle cells, allowing sodium channels to open, resulting in muscle depolarization and contraction of skeletal muscles<sup>1,2</sup>

**AChR, MuSK, and LRP4 proteins are essential for NMJ function<sup>1,2</sup>**

- The clustering and maintenance of AChRs requires proteins including MuSK, LRP4, and agrin<sup>1,2</sup>

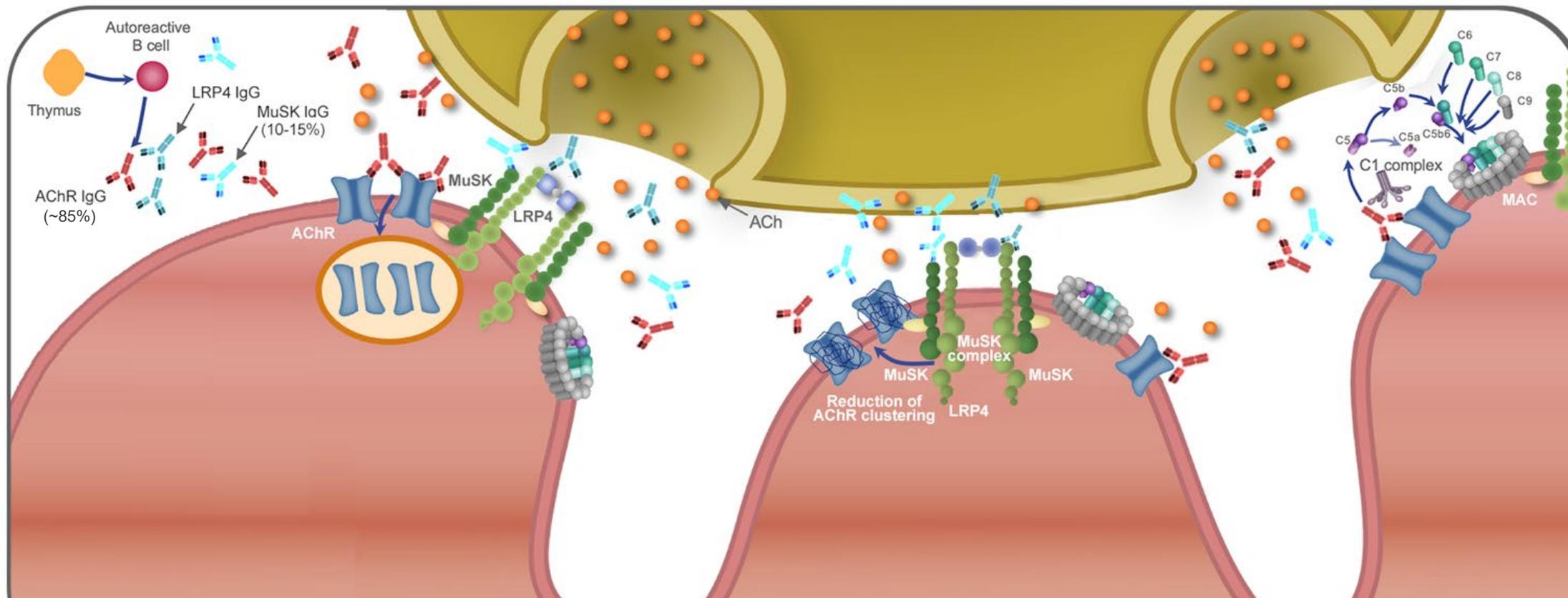
In healthy people, plasma IgG levels are regulated by many mechanisms, including FcRn<sup>3</sup>

ACh=acetylcholine; AChE=acetylcholinesterase; AChR=acetylcholine receptor; FcRn=neonatal Fc receptor; IgG=immunoglobulin G; LRP4=low-density lipoprotein receptor-related protein; MuSK=muscle-specific kinase; NMJ=neuromuscular junction.

**References:** 1. Huang K, et al. *Front Neurol.* 2019;10:516. 2. Plomp JJ, et al. *Exp Neurol.* 2015;270:41-54. 3. Gable KL, Guptill JF. *Front Immunol.* 2020;10(3052):1-9.



# gMG is caused by pathogenic IgG autoantibodies that interrupt synaptic function and muscle contraction via multiple pathways<sup>1-4</sup>



## Neuromuscular junction in MG

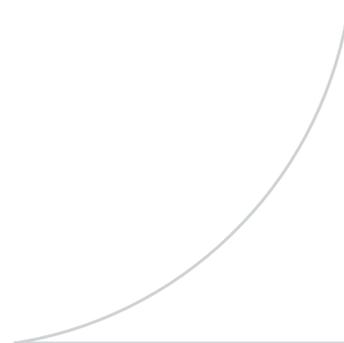
Ab=antibody; ACh=acetylcholine; AChR=acetylcholine receptor; C[x]=complement component [x]; gMG=generalized myasthenia gravis; IgG=immunoglobulin G; LRP4=low-density lipoprotein receptor-related protein; MAC=membrane attack complex; MG=myasthenia gravis; MuSK=muscle-specific kinase; NMJ=neuromuscular junction.

**References:** **1.** Phillips WD, Vincent A. *F1000Res*. 2016;5:F1000 Faculty Rev-1513. **2.** Burden SJ, et al. *Cold Spring Harb Perspect Biol*. 2013;5:a009167. **3.** Huang K, et al. *Front Neurol*. 2019;10:516. **4.** Gilhus NE. *New Engl J Med*. 2016;375:2570-2581. **5.** Howard JF Jr. *Ann N Y Acad Sci*. 2018;1412:113-128. **6.** Li Y, et al. *Cleve Clin J Med*. 2013;80:711-721. **7.** Huijbers MG, et al. *PNAS*. 2013;110:20783-88. **8.** McConville J, et al. *Ann Neurol*. 2004;55:580-584. **9.** Zisimopoulou P, et al. *J Autoimmunity*. 2014;52:139-145. **10.** Gable KL, Guptill JF. *Front Immunol*. 2020;10:3052. **11.** Roopenian DC, Akilesh S. *Nat Rev Immunol*. 2007;7:715-725.



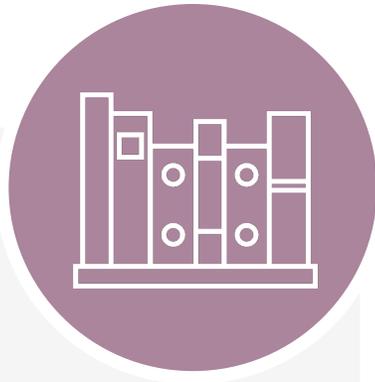
# RYSTIGGO®

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# RYSTIGGO® Product Summary



## RYSTIGGO®

- ▶ Is an **FcRn blocker** designed to block the interaction of FcRn and IgG<sup>1</sup>
- ▶ Is indicated for the treatment of generalized myasthenia gravis (gMG) in adult patients who are anti-acetylcholine receptor (AChR) or anti-muscle-specific tyrosine kinase (MuSK) antibody positive<sup>2</sup>



## HCP Administration/Medical Benefit

- RYSTIGGO® has 3 dose options based on body weight<sup>2</sup>
- Administered as a subcutaneous infusion once weekly for 6 weeks<sup>2</sup>
- Supplied in 280 mg/2 mL, 420 mg/ 3 mL, 560 mg/4 mL or 840 mg/6 mL single dose vials<sup>2</sup>



Device shown is one of several different devices that can be used for administration.

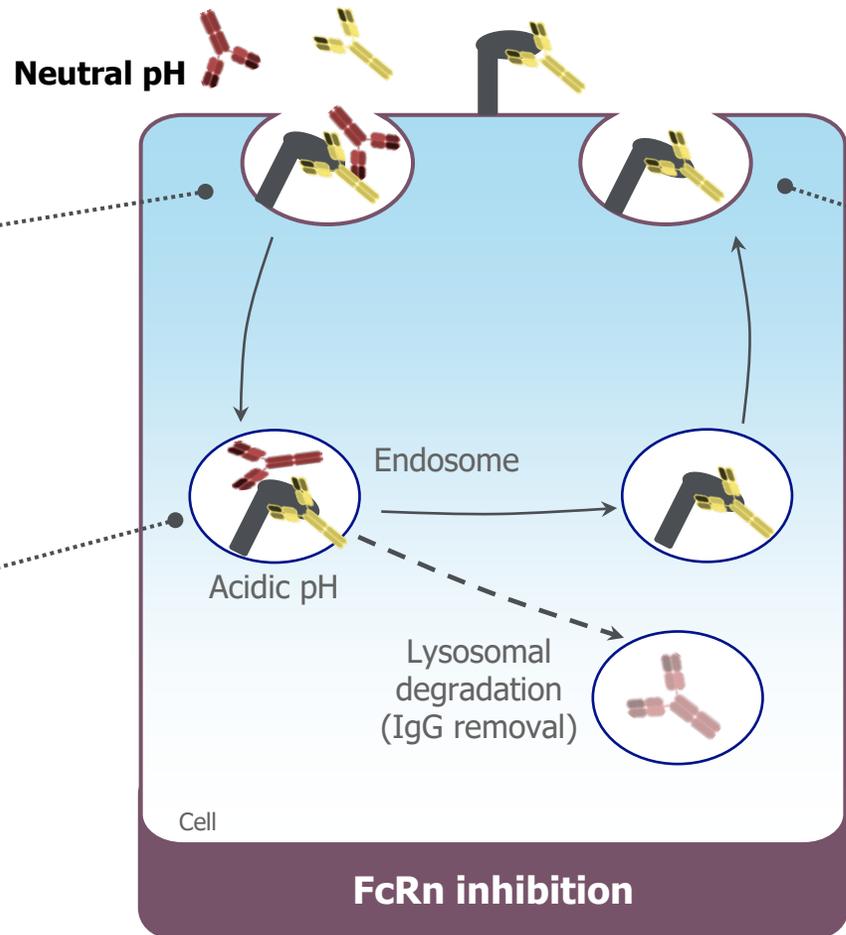
AChR=acetylcholine receptor; BLA=Biologics License Application; FDA=Food and Drug Administration; FcRn=neonatal Fc receptor; gMG=generalized myasthenia gravis; HCP=healthcare professional; IgG=immunoglobulin G; MGFA=Myasthenia Gravis Foundation of America; MuSK=muscle-specific kinase.  
**References:** 1. Smith B, et al. *Mabs*. 2018;10(7):1111-1130. 2. Rystiggo [prescribing information]. Smyrna, GA, UCB, Inc



# RYSTIGGO® inhibits IgG recycling by FcRn blockade<sup>1-5</sup>

**Inhibition of FcRn by RYSTIGGO® markedly reduced plasma IgG concentrations<sup>1</sup>**  
Anti-FcRn inhibits IgG recycling by binding and occupying FcRn

**RYSTIGGO® removes all IgG subclasses, including AChR and MuSK autoantibodies<sup>1,3</sup>**  
Accelerates destruction trafficking of IgG to lysosomes for degradation pathway



**RYSTIGGO® is a subcutaneous, humanized monoclonal antibody<sup>1,5</sup>**  
RYSTIGGO specifically binds, with high affinity, to human FcRn

**FcRn receptor**

**Rystiggo®**

**IgG (normal/pathogenic)**

**IgG (degraded/removed)**

AChR=acetylcholine receptor; FcRn=neonatal Fc receptor; IgG=immunoglobulin G; MG=myasthenia gravis; MuSK=muscle-specific kinase.

**References:** 1. Smith B, et al. *Mabs*. 2018;10:1111-1130. 2. Gable KL, Guptill JF. *Front Immunol*. 2020;10:3052. 3. Kiessling P, et al. *Sci Transl Med*. 2017;9:eaan1208. 4. Bril V, et al. *Neurol*. 2021;96:e853-e865. 5. Robak T, et al. *Blood*. 2019;134(suppl 1):897.



# MycarinG: Phase III gMG study

	MycarinG (MG0003)		
<b>Primary endpoints<sup>1,2</sup></b>	<b>Change from baseline to Day 43 in <u>MG-ADL</u> total score</b>		A 2-point change in MG-ADL score is considered clinically meaningful <sup>3</sup>
<b>Inclusion criteria<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• ≥18 years of age</li> <li>• Diagnosis of gMG (MGFA class II-IVa)</li> <li>• <b>AChR Ab+ or MuSK Ab+</b></li> <li>• MG-ADL score ≥3</li> <li>• QMG score ≥11</li> <li>• Considered for additional treatment (eg, IVIg or PLEX)</li> </ul>		
<b>Randomized 1:1:1</b>	RZL 10 mg/kg SC + <b>SOC</b>	RZL 7 mg/kg SC + <b>SOC</b>	Placebo + <b>SOC</b>
<b>SOC<sup>6</sup></b>	<b>IST, corticosteroids, AChE inhibitors (pyridostigmine)</b>		

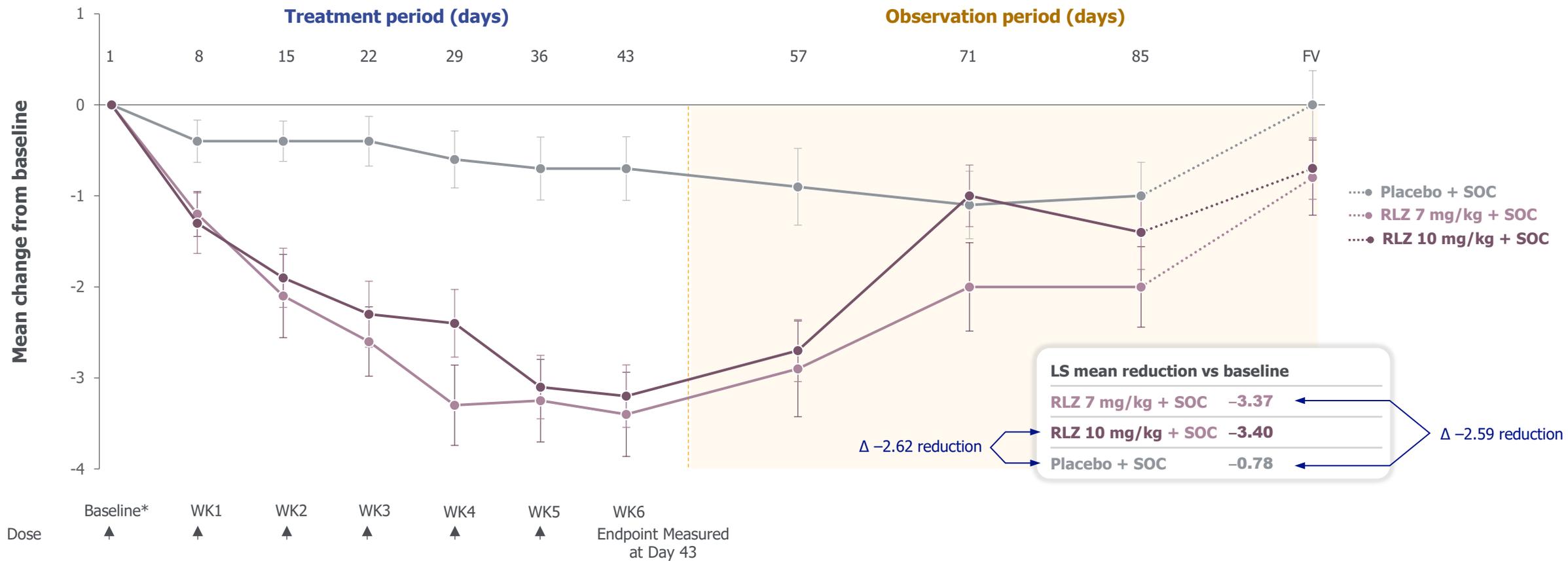
SOC includes IST, corticosteroids, and AChE inhibitors.<sup>6</sup>

Ab=antibody; AChE=acetylcholinesterase; AChR=acetylcholine receptor; gMG=generalized myasthenia gravis; IST=immunosuppressive therapy; IVIg=intravenous immunoglobulin; MG-ADL=Myasthenia Gravis Activities of Daily Living; MGS-PRO=Myasthenia Gravis Symptoms Patient-Reported Outcome; MGC=Myasthenia Gravis Composite; MGFA=Myasthenia Gravis Foundation of America; MuSK=muscle-specific kinase; PLEX=plasma exchange; QMG=Quantitative Myasthenia Gravis; SC=subcutaneous; SOC=standard of care; RLZ=RYSTIGGO.

**References:** **1.** Bril V, et al. Poster presented at: 14th MGFA International Conference on Myasthenia and Related Disorders; May 10-12, 2022; Miami, FL. **2.** Habib AA, et al. Poster presented at: 14th MGFA International Conference on Myasthenia and Related Disorders; May 10-12, 2022; Miami, FL. **3.** Muppidi S, et al. *Muscle Nerve*. 2011;44(5):727-731. **4.** Katzberg HD, et al. *Muscle Nerve*. 2014;49(5):661-665. **5.** Benatar M, et al. *Muscle Nerve*. 2012;45(6):909-917. **6.** Data on file. UCB, Inc., Smyrna, GA.



# Results of RYSTIGGO® vs placebo for MG-ADL at Day 43<sup>1,2</sup>



**RYSTIGGO met the primary endpoint, achieving a statistically significant and clinically meaningful reduction in MG-ADL ( $P < 0.001$ )<sup>1</sup>**

\*Treatment initiation on Day 1

A 2-point change in MG-ADL score is considered clinically meaningful.<sup>3</sup> SOC includes immunosuppressant therapy, corticosteroids, and acetylcholinesterase inhibitors.<sup>2</sup>

FV=final visit (could occur on any day up to Day 99); MG-ADL=Myasthenia Gravis Activities of Daily Living; RLZ=RYSTIGGO; SOC=standard of care.

**References:** **1.** Bril V, et al. Poster presented at: 14th MGFA International Conference on Myasthenia and Related Disorders; May 10-12, 2022; Miami, FL. **2.** Rystiggo [prescribing information]. Smyrna, GA, UCB, Inc. **3.** Muppidi S, et al. *Muscle Nerve*. 2011;44(5):727-731.



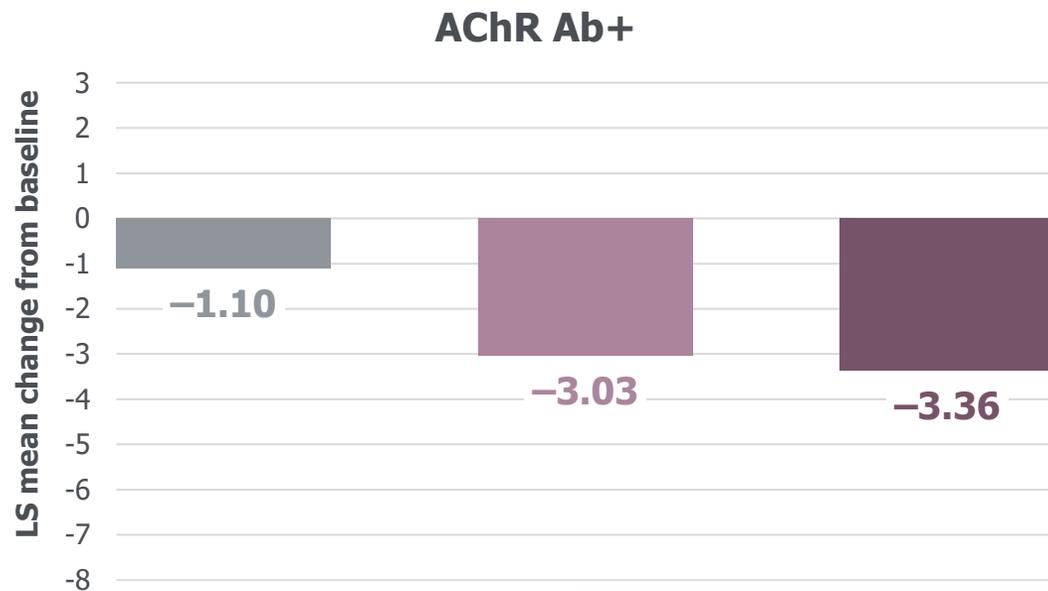
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## Sub-group analysis: Mean MG-ADL change from baseline at Day 43 by MG autoantibody subgroup

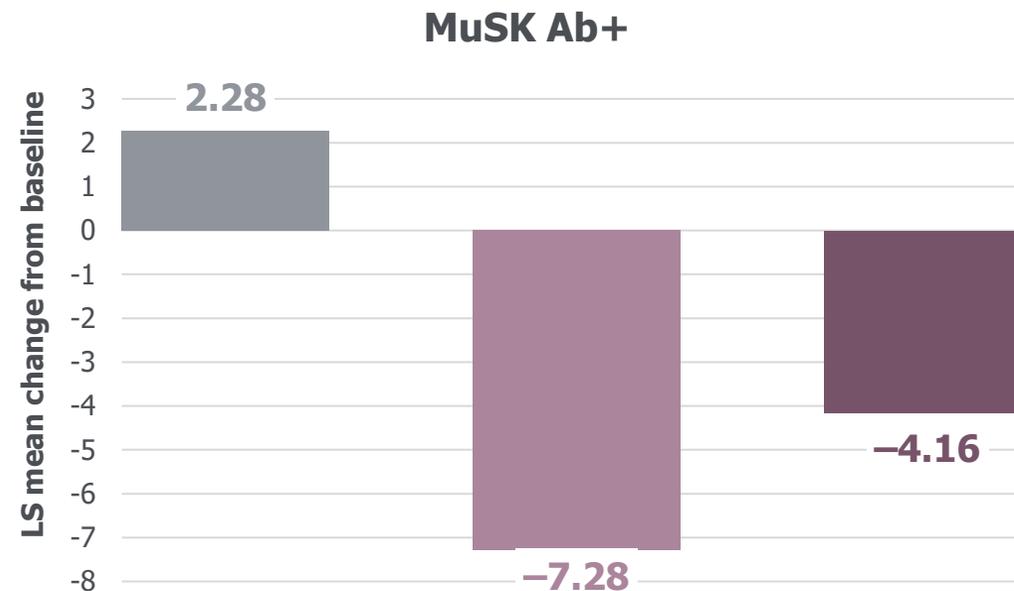
Reductions from baseline in MG-ADL score were observed at Day 43 for both RYSTIGGO® dose groups vs placebo in participants with AChR Ab+ or MuSK Ab+ gMG



- Placebo + SOC (n = 59)
- RLZ 7 mg/kg + SOC (n = 60)
- RLZ 10 mg/kg + SOC (n = 60)

#### LS mean difference vs placebo (97.5% CI)

<b>RLZ 7 mg/kg + SOC</b>	-1.94 (-3.06, -0.81)
<b>RLZ 10 mg/kg + SOC</b>	-2.26 (-3.39, -1.13)



- Placebo + SOC (n = 8)
- RLZ 7 mg/kg + SOC (n = 5)
- RLZ 10 mg/kg + SOC (n = 8)

#### LS mean difference vs placebo (97.5% CI)

<b>RLZ 7 mg/kg + SOC</b>	-9.56 (-15.25, -3.87)
<b>RLZ 10 mg/kg + SOC</b>	-6.45 (-11.03, -1.86)

SOC includes immunosuppressant therapy, corticosteroids, and acetylcholinesterase inhibitors

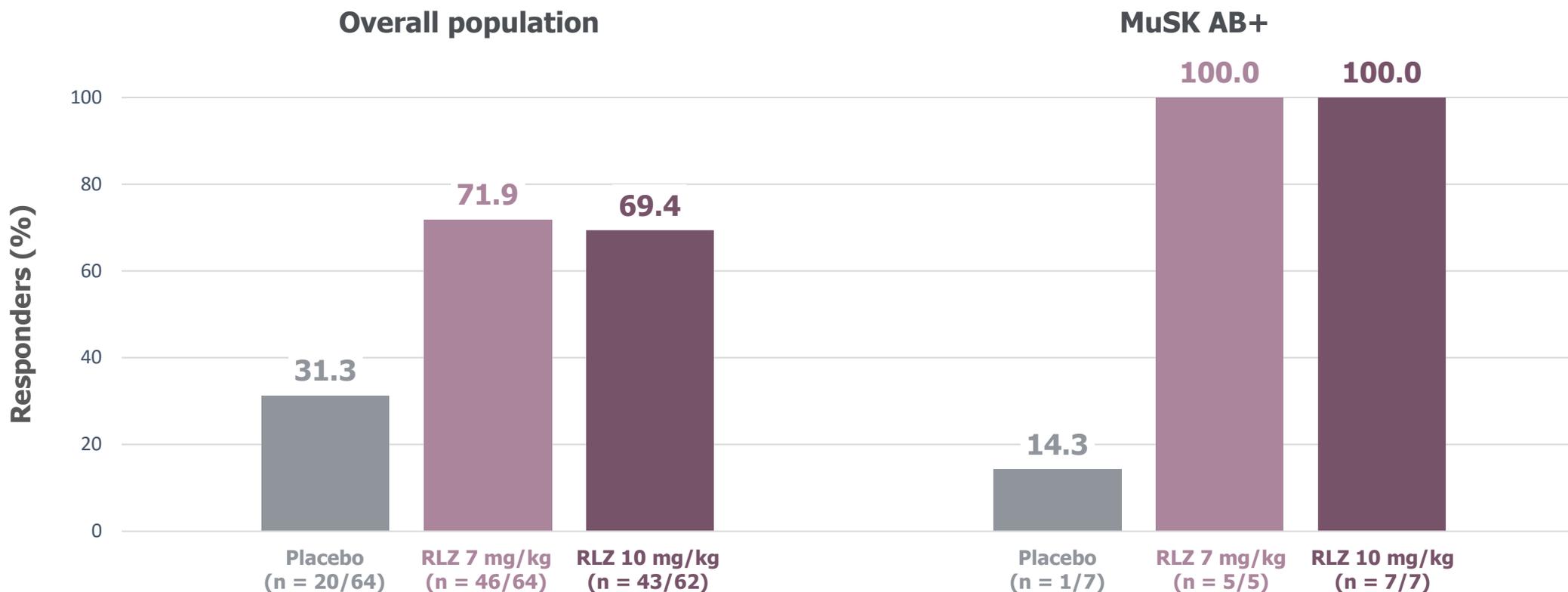
Ab=antibody; AChR=acetylcholine receptor; gMG=generalized myasthenia gravis; LS=least squares; MG=myasthenia gravis; MG-ADL=Myasthenia Gravis Activities of Daily Living; MuSK=muscle-specific kinase; RLZ=RYSTIGGO; SOC=standard of care.

Reference: Data on file. UCB, Inc., Smyrna, GA.



# MG-ADL responders at Day 43 for patients treated with RYSTIGGO®

All 12 patients with MuSK Ab+ gMG with data available at Day 43 were MG-ADL responders\*



\*MG-ADL responder ( $\geq 2.0$ -point improvement from baseline) at Week 6 (Day 43)

Study limitations Responder Rate was a prespecified secondary endpoint not controlled for multiplicity; therefore, data should be interpreted with caution and conclusions cannot be drawn.

Adapted from Habib A, et al. AANEM 2022, MGFA Scientific Session Poster 16.

Ab+=autoantibody positive; gMG=generalized myasthenia gravis; MG-ADL=Myasthenia Gravis Activities of Daily Living; MGC=Myasthenia Gravis Composite; MuSK=muscle-specific kinase; QMG=Quantitative Myasthenia Gravis; RLZ=RYSTIGGO.

Reference: Habib AA, et al. Poster presented at: 2022 AANEM Conference; September 14-21, 2022; Nashville, TN.



# RYSTIGGO<sup>®</sup> has 3 dose options based on body weight<sup>1</sup>

RYSTIGGO<sup>®</sup> is supplied in 280 mg/2mL (140 mg/mL) single-dose vials

- RYSTIGGO<sup>®</sup> is administered as a subcutaneous infusion once weekly for 6 weeks<sup>1</sup>
  - If a scheduled infusion is missed, RYSTIGGO<sup>®</sup> may be administered up to 4 days after the scheduled time point
  - Thereafter, resume the original dosing schedule until the treatment cycle is completed
- The average length of inpatient stay per admission ranged from 11.3 in 2015 to 13.1 in 2010 for patients in a Medicare limited dataset<sup>2</sup>
  - ~2 doses administered during average inpatient stay and treatment to be continued after discharge
  - Treatment may be administered in a SNF or patient's home
- Administration of "RYSTIGGO" or "rozanolixizumab-noli" may be noted in the progress notes/treatment notes or medication section of the medical record

Body weight	Dose	Dosage Volume	Vials per dosage	Vials per cycle
<50 kg	420 mg	3 mL	2 vials	12 vials
≥50 to <100 kg	560 mg	4 mL	2 vials	12 vials
≥100 kg	840 mg	6 mL	3 vials	18 vials

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Reference: 1. Rystiggo [prescribing information]. Smyrna, GA, UCB, Inc 2. Ramsaroop, et al, BMC neurol. 2023 Jan 12;23:1.

# Summary

RYSTIGGO® (rozanolixizumab-noli) is indicated for the treatment of generalized myasthenia gravis (gMG) in adult patients who are anti-acetylcholine receptor (AChR) or anti-muscle-specific tyrosine kinase (MuSK) antibody positive.

RYSTIGGO is administered as a subcutaneous infusion in the lower abdomen using an infusion pump at a rate of up to 20 mL/hour once weekly for six weeks. Each dose is determined based on body weight. For body weight less than 50 kg, each dose is 420 mg. For body weight between 50 kg to less than 100 kg, each dose is 560 mg.

UCB, Inc. has submitted a New Technology Add-on Payment (NTAP) application for FY2026 consideration.





# RYSTIGGO® Warnings and Precautions

## Infections

RYSTIGGO may increase the risk of infection. Delay RYSTIGGO administration in patients with an active infection until the infection is resolved. During treatment with RYSTIGGO, monitor for clinical signs and symptoms of infection. If serious infection occurs, administer appropriate treatment and consider withholding RYSTIGGO until the infection has resolved.

In clinical studies, common infections (at least 5% frequency) were upper respiratory tract infections (17%), COVID-19 (14%), urinary tract infections (9%), and herpes simplex (6%). Serious infections were reported in 4% of patients treated with RYSTIGGO. Three fatal cases of pneumonia were identified caused by COVID-19 infection in two patients and an unknown pathogen in one patient.

## Immunization

Immunization with vaccines during RYSTIGGO treatment has not been studied. The safety of immunization with live or live-attenuated vaccines and the response to immunization with any vaccine are unknown. Because RYSTIGGO causes a reduction in IgG levels, vaccination with live-attenuated or live vaccines is not recommended during treatment with RYSTIGGO. Evaluate the need to administer age-appropriate vaccines according to immunization guidelines before initiation of a new treatment cycle with RYSTIGGO.

**Aseptic Meningitis:** Serious adverse reactions of aseptic meningitis (also called drug-induced aseptic meningitis) have been reported in patients treated with RYSTIGGO. If symptoms consistent with aseptic meningitis develop, diagnostic workup and treatment should be initiated according to the standard of care.

**Hypersensitivity Reactions:** Hypersensitivity reactions, including angioedema and rash, were observed in patients treated with RYSTIGGO. Management of hypersensitivity reactions depends on the type and severity of the reaction. Monitor patients during treatment with RYSTIGGO and for 15 minutes after for clinical signs and symptoms of hypersensitivity reactions. If a reaction occurs, institute appropriate measures if needed.



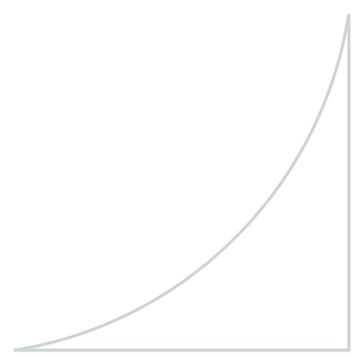
Inspired by **patients.**  
Driven by **science.**

**Thank You!**



# Appendix

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# MG-ADL tool provides a rapid assessment of symptom severity<sup>1-3</sup>

Grade	0	1	2	3	Score (0, 1, 2, or 3)
<b>Talking</b>	Normal	Intermittent slurring or nasal speech	Constant slurring or nasal, but can be understood	Difficult to understand speech	
<b>Chewing</b>	Normal	Fatigue with solid food	Fatigue with soft food	Gastric tube	
<b>Swallowing</b>	Normal	Rare episode of choking	Frequent choking necessitating changes in diet	Gastric tube	
<b>Breathing</b>	Normal	Shortness of breath with exertion	Shortness of breath at rest	Ventilator dependence	
<b>Impairment of ability to brush teeth or comb hair</b>	None	Extra effort, but no rest periods needed	Rest periods needed	Cannot do one of these functions	
<b>Impairment of ability to arise from a chair</b>	None	Mild, sometimes uses arms	Moderate always uses arms	Severe, requires assistance	
<b>Double vision</b>	None	Occurs, but not daily	Daily, but not constant	Constant	
<b>Eyelid droop</b>	None	Occurs , but not daily	Daily, but not constant	Constant	
<b>TOTAL MG-ADL Score (range 0-24) =</b>					

Proprietary Property of UCB

Minimal symptom expression (MSE) is defined as an MG-ADL of 0 or 1<sup>2</sup>

MG=myasthenia gravis; MG-ADL=Myasthenia Gravis Activities of Daily Living.

**References:** 1. Myasthenia Gravis Foundation of America. Resources for professionals. Accessed July 14, 2022. <https://myasthenia.org/Professionals/Resources-for-Professionals>. 2. Muppidi S, et al. *Muscle Nerve*. 2022;65(6):630-639. 3. Data on file. UCB, Inc., Smyrna, GA.

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# QMG is a standardized, quantitative strength scoring system for patients with MG<sup>1-3</sup>



Test Item	None	Mild	Moderate	Severe	Score
Grade	0	1	2	3	Scale
Double vision on lateral gaze Right or left (circle one), seconds	61	11-60	1-10	Spontaneous	
Ptosis (upward gaze), seconds	61	11-60	1-10	Spontaneous	
Facial muscles	Normal lid closure	Complete, weak, some resistance	Complete, without resistance	Incomplete	
Swallowing 4 oz water (1/2 cup)	Normal	Minimal coughing or throat clearance	Severe coughing/choking or nasal regurgitation	Cannot swallow (test not attempted)	
Speech after counting aloud from 1 to 50 (onset of dysarthria)	None at 50	Dysarthria at 30-49	Dysarthria at 10-20	Dysarthria at 9	
Right arm outstretched (90° sitting), seconds	240	90-239	10-89	0-9	
Left arm outstretched (90° sitting), seconds	240	90-239	10-89	0-9	
Vital capacity, % predicted	≥80	65-79	50-64	≤50	
Right-hand grip, kgW Men   Women	≥45   ≥30	15-44   10-29	5-14   5-9	0-4   0-4	
Left-hand grip, kgW Men   Women	≥35   ≥25	15-34   10-24	5-14   5-9	0-4   0-4	
Head lifted (45° supine), seconds	120	30-119	1-29	0	
Right leg outstretched (45° supine), seconds	100	31-99	1-30	0	
Left leg outstretched (45° supine), seconds	100	31-99	1-30	0	
<b>TOTAL QMG Score (range 0-39) =</b>					

Proprietary Property of UCB

A 3-point change in the total QMG score may be considered clinically meaningful<sup>2</sup>

MG=myasthenia gravis; QMG=Quantitative Myasthenia Gravis.

**References:** 1. Myasthenia Gravis Foundation of America. Resources for professionals. Accessed July 14, 2022. <https://myasthenia.org/Professionals/Resources-for-Professionals>.  
2. Data on file. UCB, Inc., Smyrna, GA. 3. Jaretzki A, et al. *Neurology*. 2000;55(1):16-23.

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# MGFA class definitions

**Class I:** Any ocular muscle weakness; may have weakness of eye closure. All other muscle strength is normal.

**Class II:** Mild weakness affecting muscles other than ocular muscles; may also have ocular muscle weakness of any severity.

**Class III:** Moderate weakness affecting muscles other than ocular muscles; may also have ocular muscle weakness of any severity.

**Class IV:** Severe weakness affecting muscles other than ocular muscles; may also have ocular muscle weakness of any severity.

**Class V:** Defined as intubation, with or without mechanical ventilation, except when employed during routine postoperative management. The use of a feeding tube without intubation places the patient in class IVb.

## Subclasses are defined as:

- a. Predominantly affecting limb, axial muscles, or both. May also have lesser involvement of oropharyngeal muscles
- b. Predominantly affecting oropharyngeal, respiratory muscles, or both. May also have lesser or equal involvement of limb, axial muscles, or both

MGFA=Myasthenia Gravis Foundation of America.

Reference: Myasthenia Gravis Foundation of America. Accessed June 27, 2022. <https://myasthenia.org/Portals/0/MGFA%20Classification.pdf>.