KOL Review of Phase 2 Results Evaluating Oral LUM-201 for Moderate Pediatric Growth Hormone Deficiency

December 2023

Rick Hawkins, CEO & Chairman

Welcome and Highlights

Forward Looking Statements

This presentation contains forward-looking statements of Lumos Pharma, Inc. that involve substantial risks and uncertainties. All such statements contained in this presentation are forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. This law that, in part, gives us the opportunity to share our outlook for the future without fear of litigation if it turns out our predictions were not correct.

We are passionate about our business - including LUM-201 and the potential it may have to help patients in the clinic. This passion feeds our optimism that our efforts will be successful and bring about meaningful change for patients. Please keep in mind that actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make.

We have attempted to identify forward-looking statements by using words such as “projected,” "upcoming," "will," “would,” "plan," “intend,” "anticipate," "approximate," "expect," “potential,” “imminent,” and similar references to future periods or the negative of these terms. Not all forward-looking statements contain these identifying words. Examples of forward-looking statements include, among others, statements we make regarding the plan to have an end-of-phase 2 meeting with the FDA in the first half of 2024 and the anticipated initiation of a Phase 3 program in the second half of 2024, our Phase 2 data providing a clear path to Phase 3 in PGHD, that PEMs enrich trials for patients likely to respond to LUM-201, the expected benefits to LUM-201, and any other statements other than statements of historical fact.

We wish we were able to predict the future with 100% accuracy, but that just is not possible. Our forward-looking statements are neither historical facts nor assurances of future performance. You should not rely on any of these forward-looking statements and, to help you make your own risk determinations, we have provided an extensive discussion of risks that could cause actual results to differ materially from our forward-looking statements including risks related to the continued analysis of data from our LUM-201 Trials, the timing and outcome of our future interactions with regulatory authorities including our end of Phase 2 meeting with the FDA, the timing and ability of Lumos to raise additional equity capital as needed to fund our Phase 3 Trial, our ability to project future cash utilization and reserves needed for contingent future liabilities and business operations, the ability to structure our Phase 3 trial in an effective and timely manner, any statements regarding potential enrollment timelines, the ability to successfully develop our LUM-201 product candidate, the effects of pandemics, other widespread health problems or military conflicts including the Ukraine-Russia conflict and the Middle East conflict and other risks that could cause actual results to differ materially from those matters expressed in or implied by such forward-looking statements including information in the "Risk Factors" section and elsewhere in Lumos Pharma’s Quarterly Report on Form 10-Q for the period ended September 30, 2023, as well as other reports filed with the SEC including our subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. All of these documents are available on our website. Before making any decisions concerning our stock, you should read and understand those documents.

We anticipate that subsequent events and developments will cause our views to change. We may choose to update these forward-looking statements at some point in the future, however, we disclaim any obligation to do so. As a result, you should not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this presentation.

11.14.2023

Agenda

Welcome & Highlights

- Rick Hawkins, *Chief Executive Officer & Chairman*

OraGrowthH212 Topline Data

- Fernando Cassorla, MD, *University of Chile*

OraGrowthH210 Topline Data

- Andrew Dauber, MD, *Children's National Hospital*

PEM Classification and Combined OraGrowthH210 & OraGrowthH212 Data

- Leslie Soyka, MD, *University of Massachusetts Memorial Health*

Questions & Answers

Key Opinion Leaders in the Field of Pediatric Endocrinology

Fernando Cassorla, M.D., is currently Chief of Pediatric Endocrinology at the Institute of Maternal and Child Research of the University of Chile, a position he has held since 1993. Previously, Dr. Cassorla served as Senior Investigator at the Developmental Endocrinology Branch of the National Institute of Child Health and Human Development, rising to the position of Clinical Director of this Institute in 1990. He has authored numerous chapters in pediatric endocrinology, authored or co-authored over 200 original articles in peer reviewed journals, and has presented over 300 abstracts at scientific meetings. Dr. Cassorla received his MD from the University of Chile. He is Board Certified in both Pediatrics and Pediatric Endocrinology, having completed his pediatric residency at the Albany Medical Center in New York and his fellowship in Pediatric Endocrinology at the Children´s Hospital of Philadelphia. Dr. Cassorla has received several international awards for his work including the ESPE International Research Award, September 2022, and was elected to the Chilean Academy of Medicine for a lifetime position in 2003.

Andrew Dauber, M.D., M.M.Sc., is the Chief of Endocrinology at Children's National Hospital, specializing in growth disorders. Dr. Dauber has served as the program director and director of translational research at the interdisciplinary Cincinnati Center for Growth Disorders at Cincinnati Children's Hospital Medical Center. Additionally, he was the director of their Genomics First for Undiagnosed Diseases Program and guided medical residents and fellows as an associate professor of pediatrics at the University of Cincinnati. He held similar roles as the assistant medical director for the clinical research unit at Boston Children's Hospital and as an assistant professor in pediatrics at Harvard Medical School. Dr. Dauber has authored over 100 publications and is an active member of, having received several awards and honors from the Endocrine Society, Pediatric Endocrine Society, European Society of Pediatric Endocrinology and the Society for Pediatric Research. Dr. Dauber received his M.D. and Master's of Medical Sciences in Clinical Investigation from Harvard Medical School.

Key Opinion Leaders in the Field of Pediatric Endocrinology

Leslie Soyka, M.D., is the Division Chief, Pediatric Endocrinology, University of Massachusetts Memorial Health, a position she has held since 2015. Dr. Soyka has also served as Interim Division Chief for four years during her professorship tenure there begun in 1999. Dr. Soyka is currently Associate Professor of Pediatrics, University of Massachusetts Chan Medical School, a position she has held since 2008. Dr. Soyka received her M.D. from University of Connecticut School of Medicine, Farmington, CT, and is Board Certified in Pediatric Endocrinology, having completed her residency at UMass Chan Medical School and a fellowship program at Massachusetts General Hospital. Dr. Soyka has authored, co-authored, or reviewed approximately 40 peer-reviewed articles, poster publications, and book chapters on pediatric endocrine subjects including growth disorders, diabetes, and obesity, among others, and has served as an investigator in numerous clinical trials focused on disorders in this space. Dr. Soyka has received a number of awards for her work and has been recognized locally and nationally as one of the best doctors in her field.

Overview
Lead asset targeting children with growth disorders

Novel Oral Rare Disease Asset	• Novel **oral** therapeutic asset, **LUM-201**, for growth hormone deficiency (GHD) disorders • LUM-201 **acts within natural endocrine pathway**, differentiated from injectable therapies
Pipeline in a Product	• **Worldwide *injectable* market** for GHD disorders is **$3.4 billion, excluding China*** • Market for **Pediatric GHD (PGHD)**, initial oral LUM-201 indication, is **$1.2 billion***
Late-stage Trials in PGHD	• **Topline data** from two Phase 2 OraGrowtH Trials in PGHD **met all endpoints** • **Growth on 1.6 mg/kg LUM-201 in line with historical benchmarks and expectations** • **Ph 2 data** provided preliminary **validation of PEMs** to identify likely LUM-201 responders**
Program Advancement	• **End-of-Phase 2 meeting** with FDA anticipated **1H 2024** to review Phase 3 program • **Initiation of Phase 3 trial** anticipated **2H 2024**
Solid Financial Position	• Cash balance of **$42.7 million** as of close of **3Q 2023** • Cash runway **through 3Q 2024**

Potential for 1st oral therapeutic to disrupt injectable market for GHD

PGHD = Pediatric Growth Hormone Deficiency

* USA, Germany, France, Italy, Spain, UK, Japan (Grandview Research, Growth Hormone Market Forecast, 2019). China GHD market estimated at $1 billion.

** PEM (Predictive Enrichment Marker) strategy consists of screening for PEM+ PGHD patients = Baseline IGF-1 > 30 ng/ml & Peak stimulation GH ≥ 5 ng/ml from single oral dose of LUM-201

LUM-201 Program Pipeline

	Study	Pre-Clinical	Phase 1	Phase 2	Phase 3	Status
LUM-201 (Ibutamoren) in Moderate PGHD*	Dose-finding trial	OraGrowtH210 TRIAL				Phase 2 Topline Data: Primary and secondary endpoints met (Nov 2023)
	Long-term extension	OraGrowtH211 TRIAL				Long-term extension study for OraGrowtH Trials: Ongoing enrollment of patients from Phase 2 trials
	PK/PD trial	OraGrowtH212 TRIAL				Phase 2 Topline Data: Primary and secondary endpoints met (Nov 2023)
	Switch trial	OraGrowtH213 TRIAL				Switch trial evaluating LUM-201 in subjects from rhGH arm of OraGrowtH210 Trial: Ongoing
LUM-201 in NAFLD**	Phase 2 pilot trial	MGH pilot trial***				Pilot trial initiated by Mass Gen Hospital (MGH) evaluating LUM-201 in NAFLD: Enrolling

Lumos Pharma is evaluating additional indications for LUM-201 for Phase 2 studies

* PGHD Pediatric Growth Hormone Deficiency **NAFLD Non-Alcoholic Fatty Liver Disease

***Trial supported by prior data evaluating rhGH in NAFLD: (ENDO 2022) JES, Volume 6, Issue Supplement_1, November-December 2022, Page A525, and JES, June 2023.

Highlights of OraGrowtH210 and OraGrowtH212 Data and Next Steps

Phase 2 Trials Evaluating Oral LUM-201 in Moderate PGHD

- Met all primary and secondary endpoints
- LUM-201 increases endogenous pulsatile GH secretion, normalizing GH and IGF-1 levels
- LUM-201 promotes growth comparable to rhGH with only 20% of GH concentration levels
- Durable effect of LUM-201 on AHV at 12 months on therapy and at 24 months in a small subset

Considerations for Phase 3 in Moderate PGHD

- Optimal 1.6 mg/kg/day LUM-201 dose selected for Phase 3
- End-of-Phase 2 meeting with FDA anticipated 1H 2024
- Expect to initiate Phase 3 program 2H 2024

Fernando Cassorla, M.D.

LUM-201 MOA and OraGrowtH212 Trial

Fernando Cassorla, MD - Disclosures

Dr. Cassorla is an investigator for clinical studies with LUM-201 at the University of Chile (Sponsor - Lumos Pharma, Inc.) and has previously acted as a consultant for Debiopharm, Pfizer, Merck, Novo Nordisk and Sandoz.

LUM-201 is an investigational compound and is not approved for use by the FDA or any other regulatory agency. Some of the slides in this presentation are derived or copied from corporate presentations previously given by Lumos Pharma, Inc. These slides are used with permission.

Goal of All Hormone Replacement Therapy is to Normalize Hormone Levels

LUM-201 Shares Same Purpose

The primary aim of Endocrine therapy involves several key aspects:

1. Concentrates on reestablishing hormonal equilibrium through hormone replacement treatments, a well-established practice observed with cortisol, thyroid hormone, and gonadal steroids.

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3. Advocates the avoidance of supraphysiological recombinant human Growth Hormone (rhGH) dosing whenever feasible.
4. Emphasizes the acceptability and convenience of oral therapies to reduce the caregiving burden, particularly in cases where extended therapy is necessary.

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Principles of LUM-201 Therapy:

1. The objective of this therapeutic approach isn't solely to achieve rapid catch-up growth followed by a decline in growth rate due to rhGH usage, but rather to achieve a sustained improvement in growth velocity that leads to the normalization of final height.

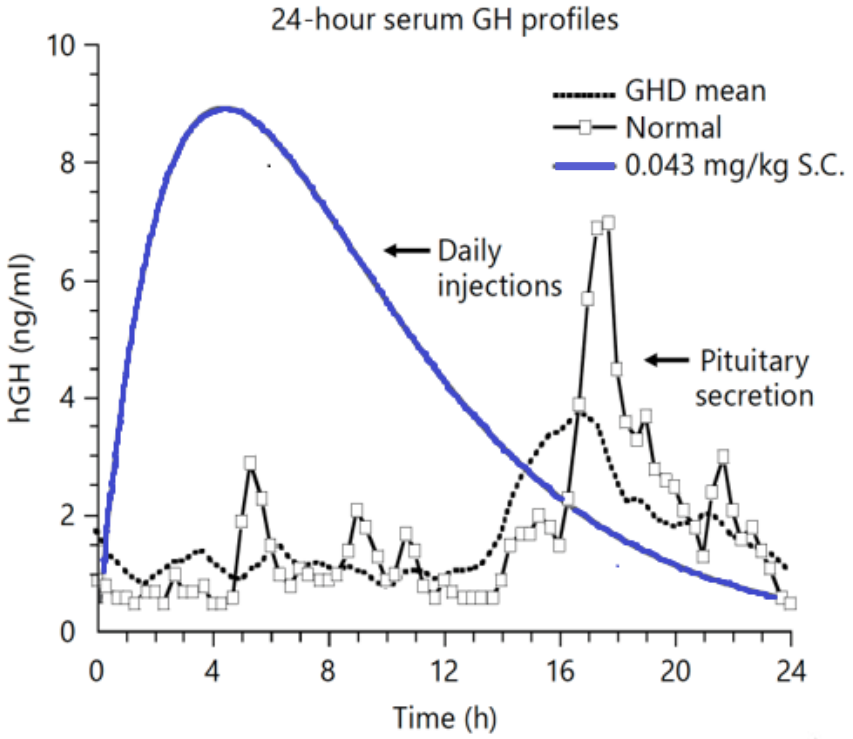

Figure: Advanced Therapies http://www.drugs.com/pro/nutropin.html Holl RW, et al. J Clin Endocrinol Metab, 77:216, 1993. Pediatric Endocrinology and Diabetology. Endocr Dev. Basel, Karger, 2016

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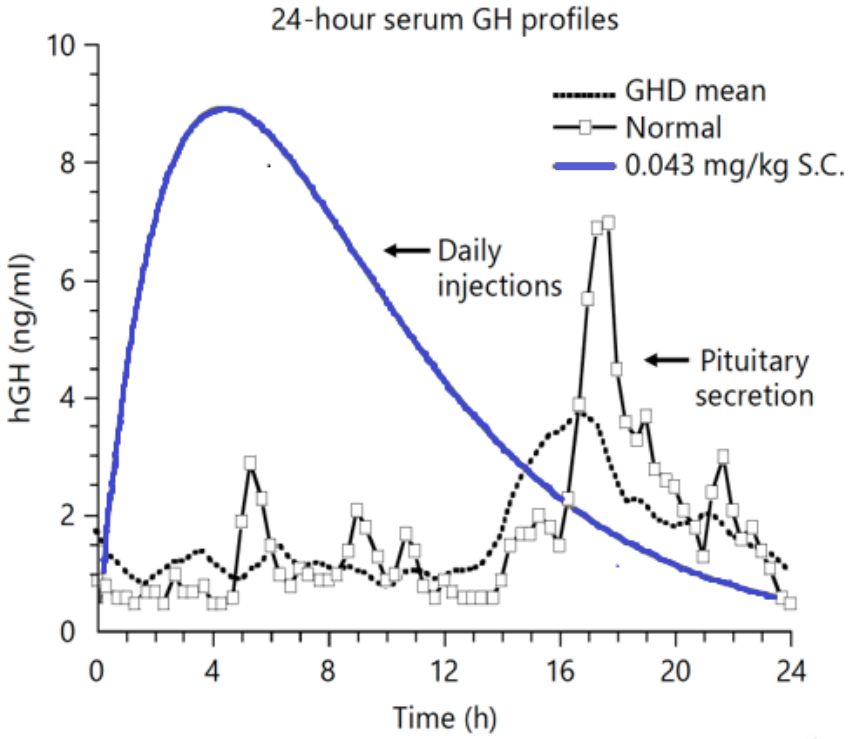
2. Moreover, this strategy is likely to support the physiological increase in endogenous GH secretion during puberty, thereby facilitating a more natural progression of growth.



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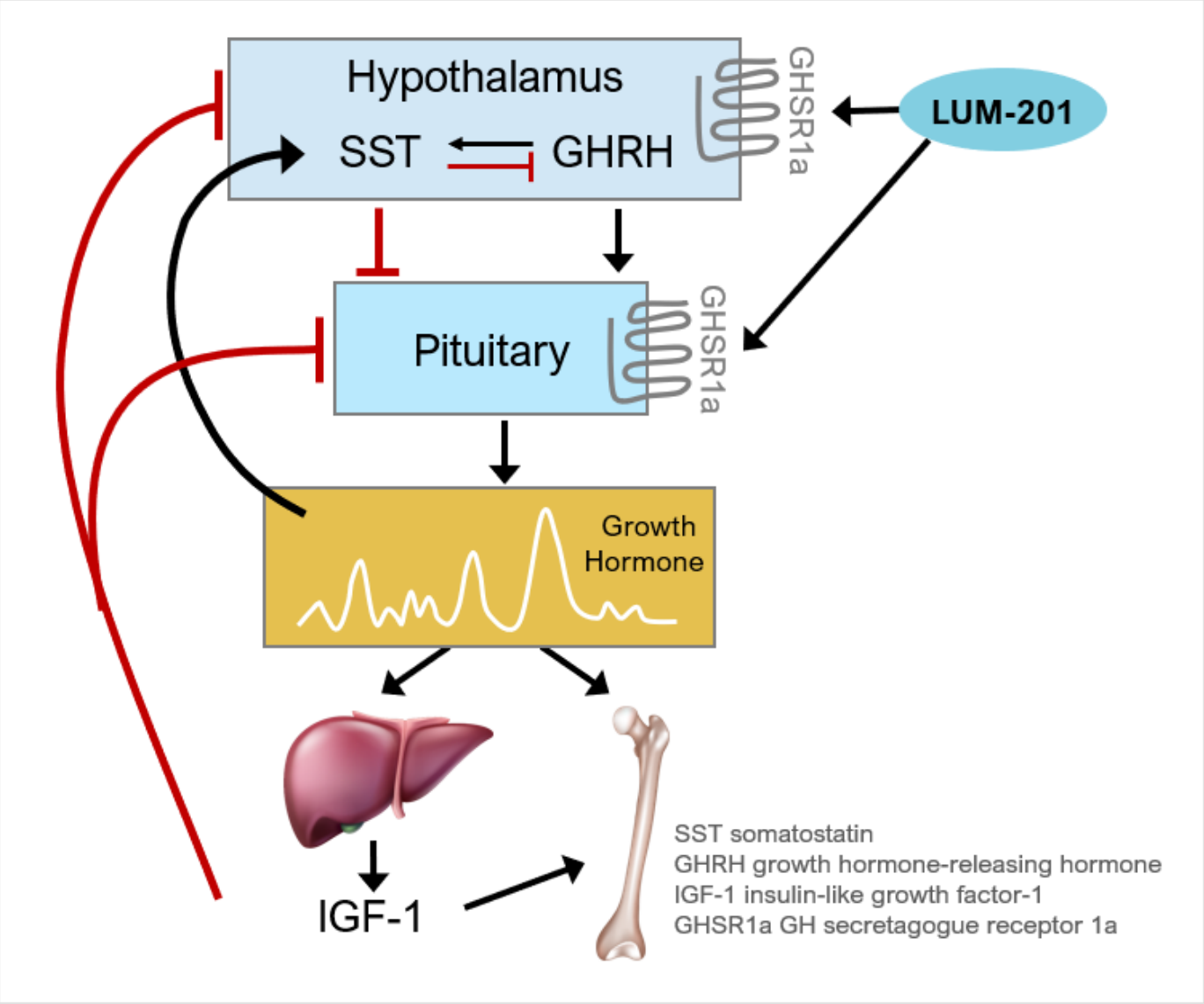
LUM-201 Stimulates Natural Growth Hormone Secretion



LUM-201 mimics natural release of growth hormone (GH)
Different from injections of synthetic GH

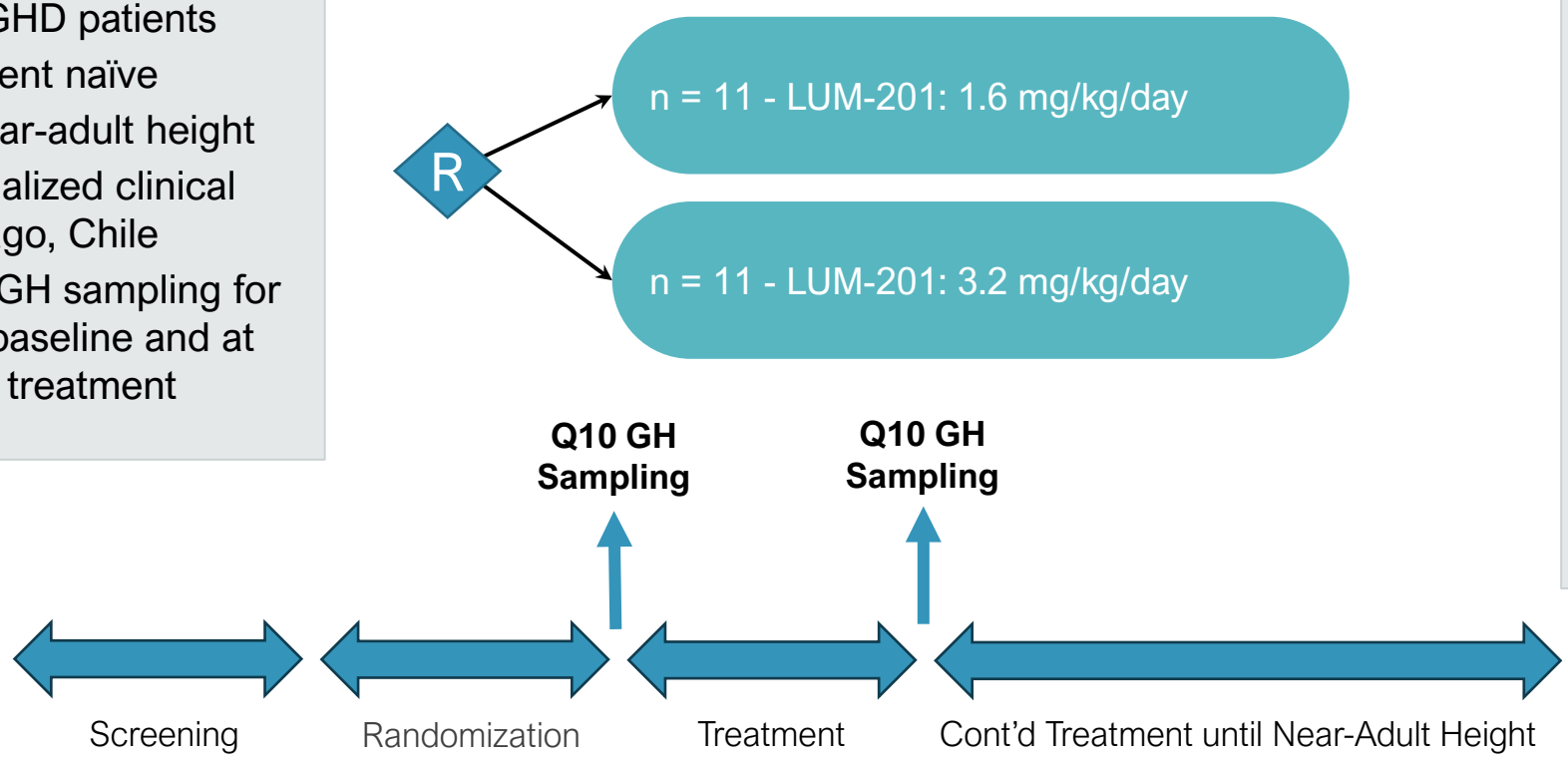
- LUM-201 is an oral GH secretagogue*
- Acts on specific receptors in hypothalamus and pituitary to stimulate release of GH[1]
- Increases the amplitude of natural pulsatile GH secretion[2,3]
- LUM-201 stimulated GH release regulated by natural GH/IGF-1 feedback mechanisms
- Differentiated mechanism versus exogenous injection of recombinant human growth hormone (rhGH) products

[1] Howard 1996 Science [2] Nass 2008 Ann Intern Med [3] Chapman 1997 J Clin Endocrinol Metab * GH secretagogue = molecule that stimulates the secretion of growth hormo

PK/PD Trial in Naïve Moderate PGHD

- n = 22
- Open-label study
- Moderate PGHD patients
- rhGH-treatment naïve
- Dosing to near-adult height
- Single, specialized clinical site in Santiago, Chile
- Q10 minute GH sampling for 12 hours at baseline and at 6 months on treatment

Primary Outcome Data (**n = 22**) – at **6 months** on therapy
Total Study Duration – Subjects on therapy to near adult height



Objectives

Study Endpoints:

- Assess LUM-201 effect on endogenous GH pulsatility and Annualized Height Velocity (AHV)
- Evaluate PK/PD in children

Goals:

- Confirm prior PK/PD data in adults & subset of Merck 020 trial
- Support future regulatory filings & commercialization

PK/PD = Pharmacokinetic / Pharmacodynamic

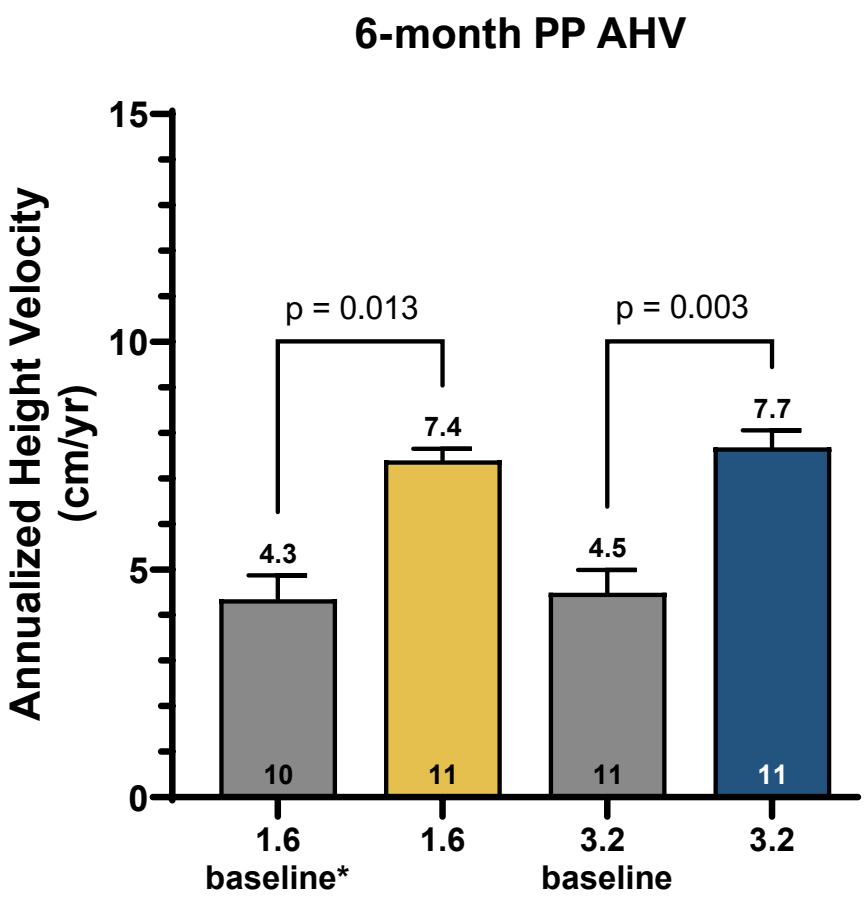
Baseline Demographics

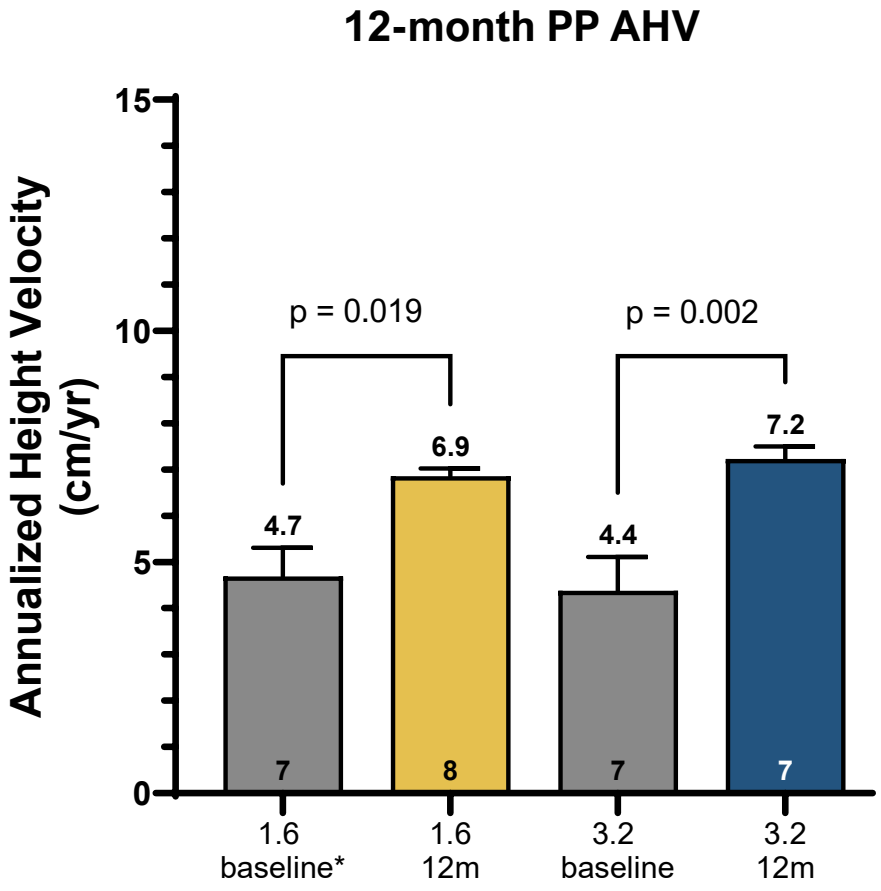
	LUM-201 1.6 mg Mean (SD) N=11	LUM-201 3.2 mg Mean (SD) N=11
Age (months)	99.7 (15.2)	100.9 (21.1)
Height (cm)	116.5 (5.5)	116.6 (9.5)
Height SDS	-2.15 (0.28)	-2.26 (0.38)
IGF-1 SDS	-1.01 (0.64)	-0.85 (0.50)
MPH (cm)	162.6 (7.0)	160.3 (8.7)
MPH SDS Δ	-0.85 (0.53)	-0.73 (0.51)
BA Delay (yrs)	1.7 (0.86)	1.8 (0.96)
BMI SDS	-0.07 (0.85)	-0.28 (0.97)

SDS = Standard deviation score MPH = Mid-parental height (Child's target height) MPH SDS delta = (Height SDS) – (MPH SDS) BA = Bone age BMI = Body mass index

Significant Increase in Growth from Baseline
Annualized Height Velocity at 6 and 12 Months Per Protocol

OraGrowth212 TRIAL





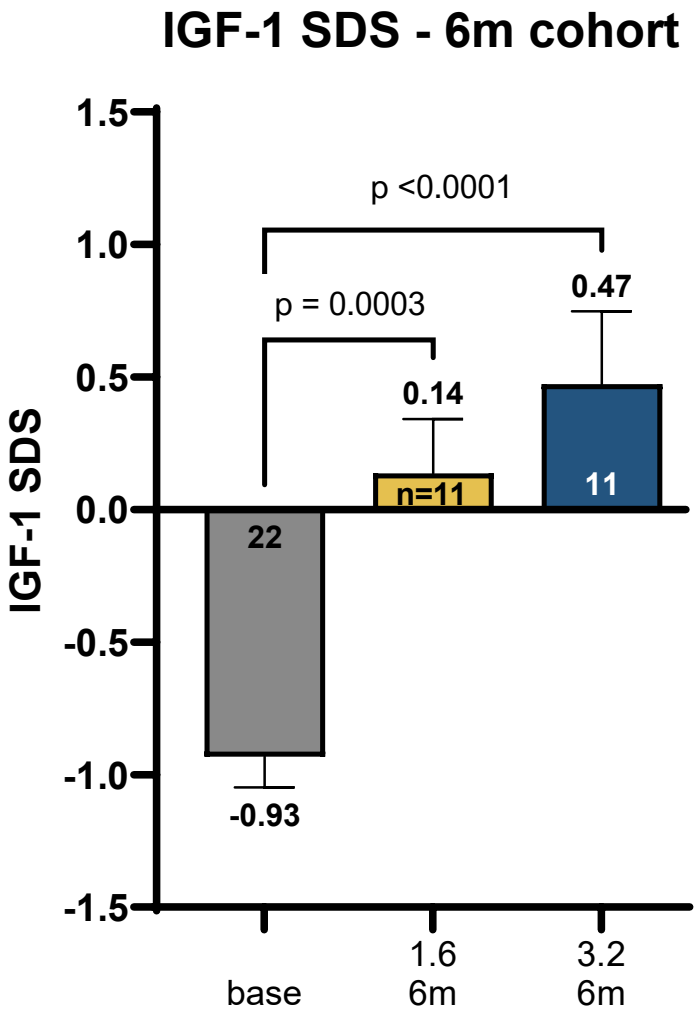
- AHV = Annualized Height Velocity
- Bars represent sample mean
- Error bars represent SEM

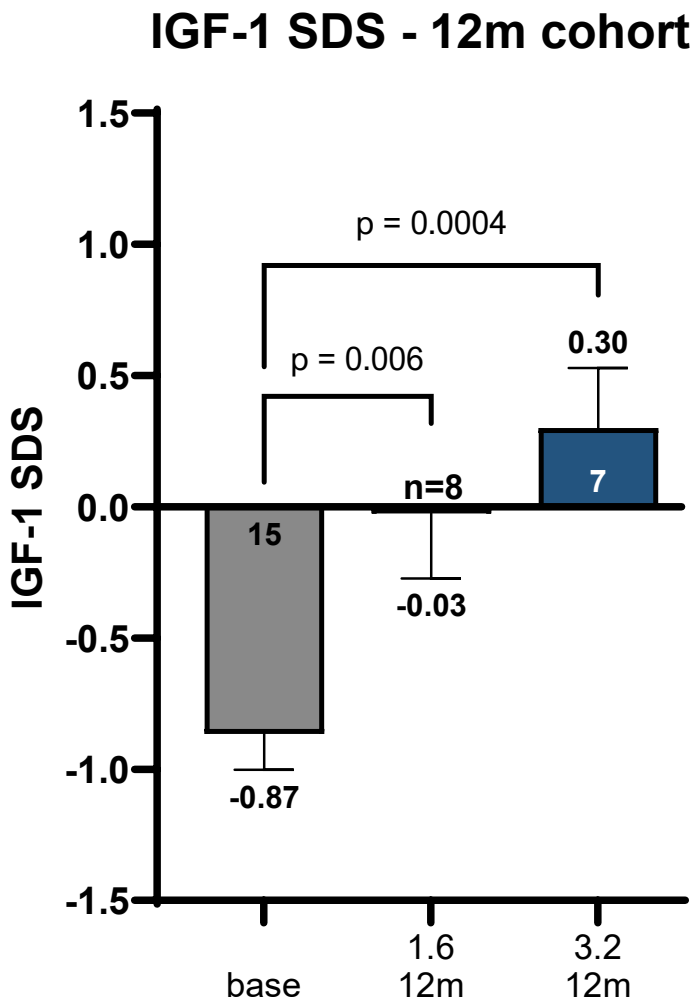
Highlights

- Considerable increase in growth from baseline
- Durable effect to 12 months
- Minimal drop off in AHV between 6 and 12 months
- No material difference between 2 dose cohorts at 6 or 12 months

AHV ANCOVA Model Terms: treatment, Age at dose 1, Sex, Baseline HT SDS, Baseline BMI SDS, Baseline IGF-1 SDS, LUM-201 PEM, Baseline BA Delay, HT SDS-MPH SDS
Bars represent Least Squares Mean (LSM),
*Baseline AHV was not measured for one patient in the 1.6 mg/kg cohort.

LUM-201 Normalizes IGF-1 Level with Durable Effect to 12 Months



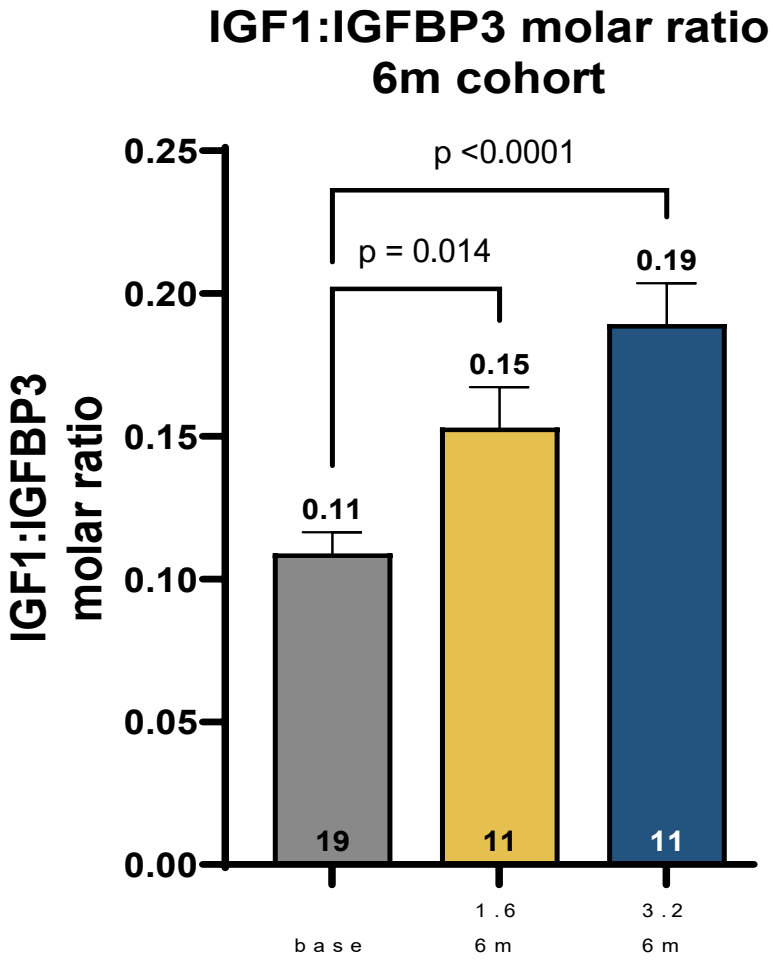


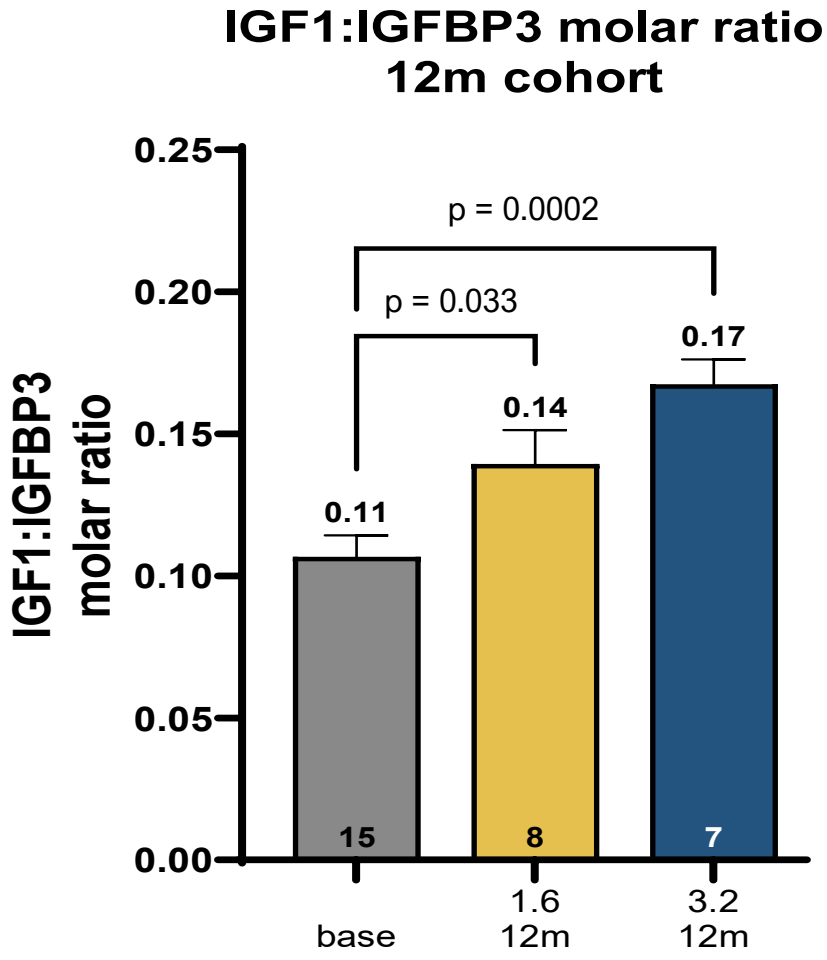
Highlights

- LUM-201 normalizes IGF-1 within 6 months
- Durable effect on IGF-1 out to 12 months
- No Subjects > 2 SDS between 0 and 12 months

- Bars represent sample mean
- Error bars represent Standard Error of the Mean (SEM)
- Data represent number of patients for whom data was available at each timepoint; not all patients had reached 12 months on treatment at time of data pull.

LUM-201 Increases IGF1:IGFBP3 Ratios with Durable Effect to 12 Months





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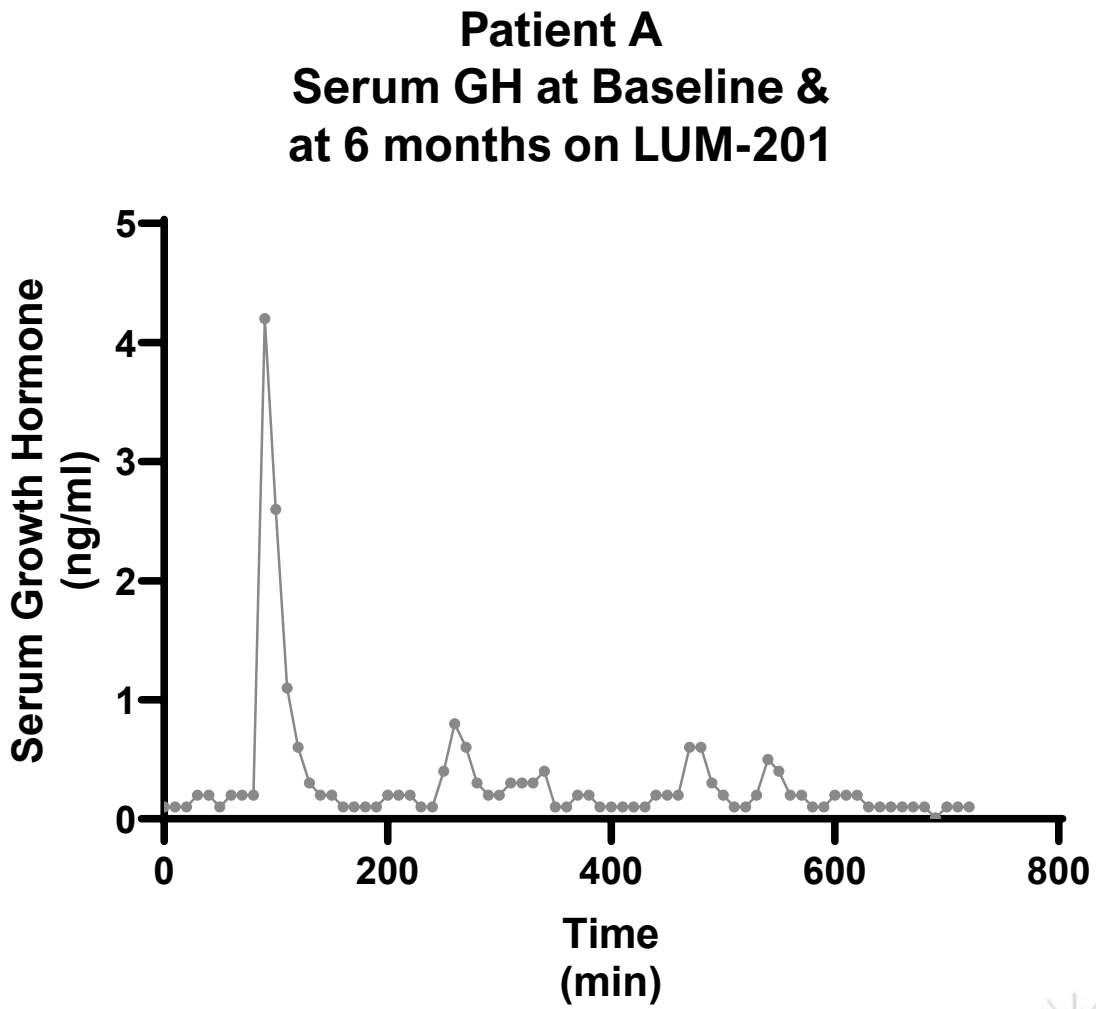
Highlights

- This ratio is a valuable indicator of GH action
- LUM-201 increases IGF1:IGFBP3 ratios within 6 months of treatment
- Durable effect on IGF1:IGFBP3 ratios out to 12 months of treatment

IGFBP3 = insulin growth factor binding protein 3

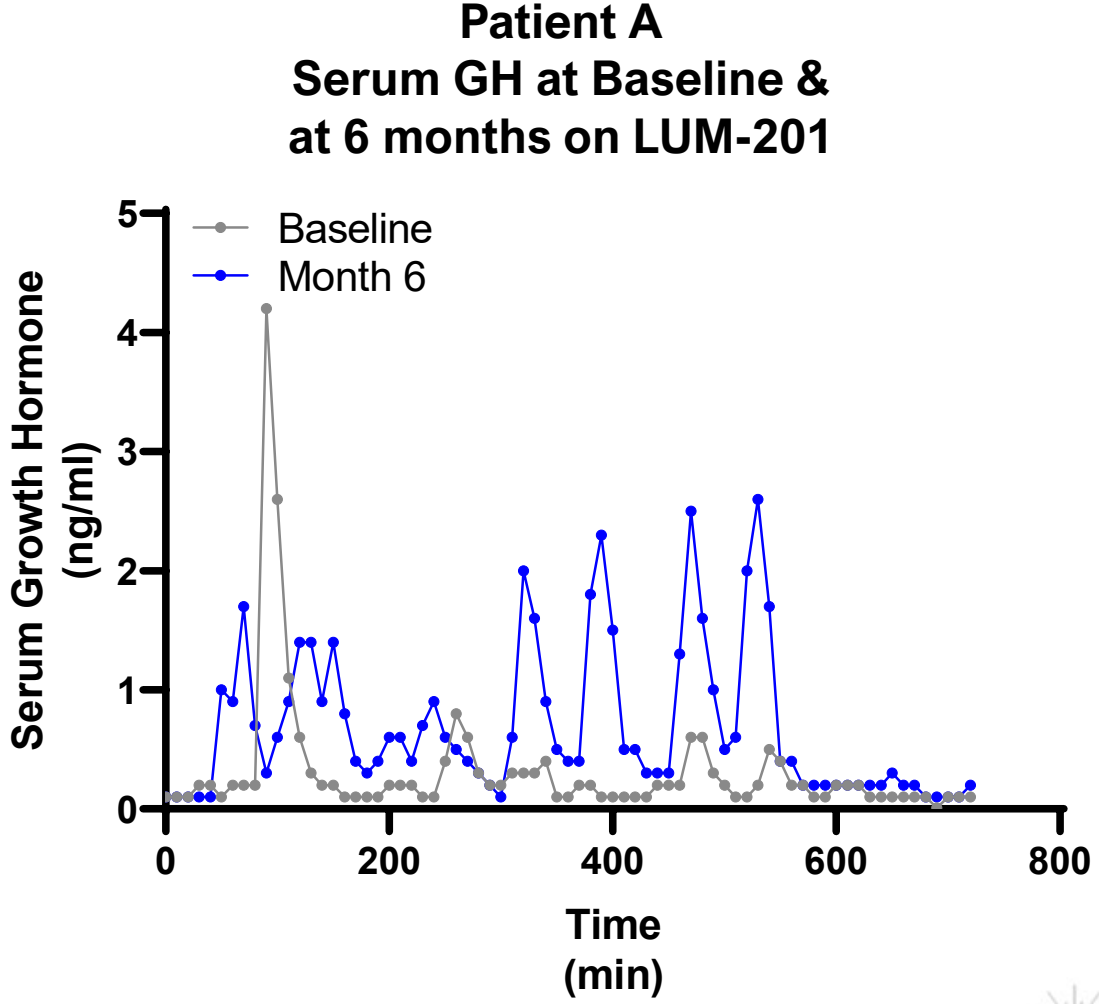
Pulsatility and Annualized Height Velocity Data:
Month 6 for Patient A (3.2 mg/kg/day)

		Baseline	6 months LUM-201 3.2 mg/kg/d
IGF-1 (ng/ml)		48	
Q10m 12h GH	AUC_{0-12} (ng*hr/ml)	252.9	
Height velocity (cm/yr)		4.4	



Pulsatility and Annualized Height Velocity Data:
Month 6 for Patient A (3.2 mg/kg/day)

		Baseline	6 months LUM-201 3.2 mg/kg/d
IGF-1 (ng/ml)		48	111
		% change from baseline**	131%
Q10m 12h GH	AUC_{0-12} (ng*hr/ml)	252.9	481.8
		% change from baseline**	91%
Height velocity (cm/yr)		4.4	9.4



LUM-201 raises AHV from baseline by augmenting pulsatile secretion of GH and increasing IGF-1

**Percent change from baseline calculated as: (6mo value – baseline value) / (baseline value)

AHV = Annualized Height Velocity

Principles of Deconvolution Analysis[1]

1. Peaks of GH concentration are identified and analyzed by combining these features:

1.ML Johnson et al, “Signal-Response Modeling of Partial Hormone Feedback Networks”, Journal of Diabetes Science and Technology 2009

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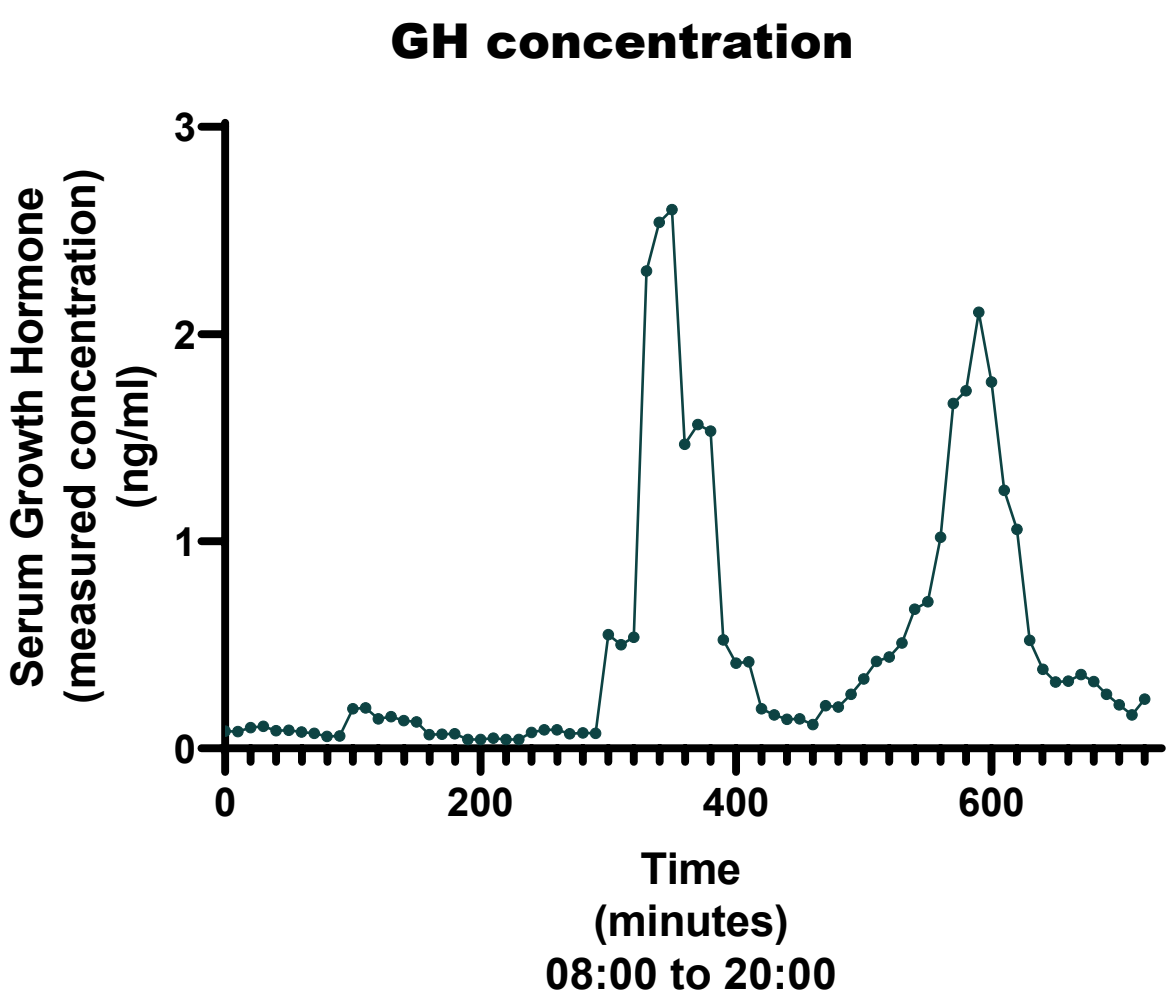
2. This generates episodes of GH secretion expressed as ng/ml/min

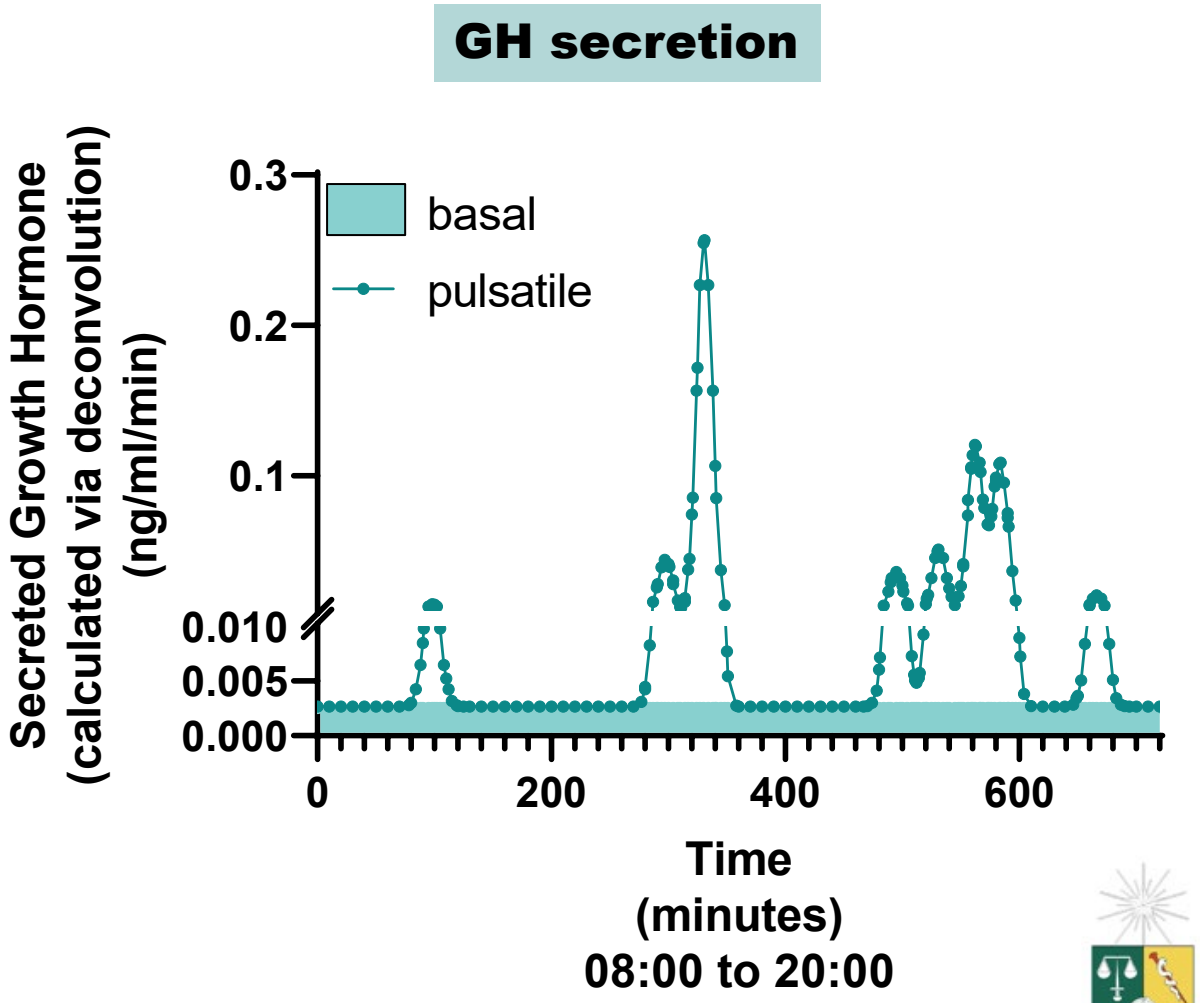
3. The distribution volume of GH in plasma is used to define secretion over 12 hours per ml of blood, which is then converted into secretion from the pituitary as µg/kg body weight/12 hours

1.ML Johnson et al, “Signal-Response Modeling of Partial Hormone Feedback Networks”, Journal of Diabetes Science and Technology 2009

Deconvolution Analysis of Serum GH Pulsatility

Provides a measure of pituitary secretion of GH





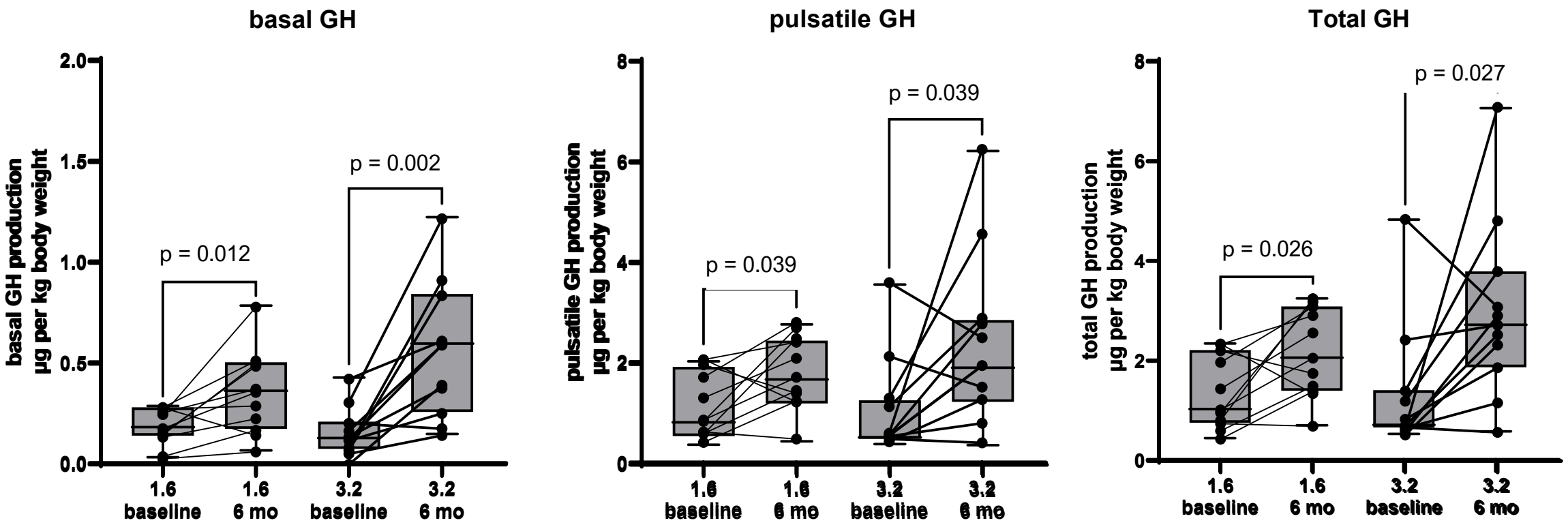
LUM-201 Treatment modulates the amplitude of GH secretory peaks, with minimal influence on number of secretory episodes

1.6 mg/kg/day*	Baseline	6m LUM-201
Secretory episodes per 12hr	6.1 (2.6)	6.1 (1.4)
Pulsatile release (ng/mL.12hr)	25.5 (14.1)	40.8 (17. 5)
3.2 mg/kg/day*	**Baseline**	**6m LUM-201**
Secretory episodes per 12hr	6.9 (2.7)	6.6 (2.2)
Pulsatile release (ng/mL.12hr)	24.0 (22.8)	55.1 (39.5)
Combined cohorts*	**Baseline**	**6m LUM-201**
Secretory episodes per 12hr	6.5 (2.6)	6.4 (1.8)
Pulsatile release (ng/mL.12hr)	24.8 (18.5)	48.0 (30.7)

Summary data represent mean ± standard deviation
*n = 11 per cohort; combined cohort data is n = 22
Secretory episodes = number of secretion events in 12hr sampling during daytime

Growth Hormone secretion at 0 vs 6 months of oral LUM-201

All variables from deconvolution based on 72 samples in 12 hours



LUM-201 1.6mg/kg and 3.2 mg/kg dose cohorts showed similar increases in GH secretion profiles

NOTE: box and whisker data plots represent median (bars), 75% (boxes), and individual subject data (whiskers)

LUM-201 Normalizes GH Secretion in Moderate PGHD

Time period	Normal healthy (IC-GH‡)	Untreated GHD (IC-GH‡)	LUM-201 (baseline GH)*	LUM-201 (treat 6M GH)*
	Zadik†		N = 22	
12h (day) µg/kg.12hr	3.3 ± 1.3	1.1 ± 0.5	1.3 ± 1.0	2.6 ± 1.4
24h µg/kg/24hr	**5.0 ± 1.3**	1.4 ± 0.5	1.7 ± 1.3**	**3.3 ± 1.8 to 4.0 ± 2.1****
Ratio 24:12(day)	1.52	1.27	1.27	1.27-1.52

LUM-201 stimulates an increase in pulsatile secretion of GH approximating normal physiologic levels

‡ IC-GH: integrated concentration of Growth Hormone; data represent mean ± standard deviation

*GH concentrations from the combined 1.6 and 3.2 mg/kg/day cohorts

**24hr GH concentrations for LUM-201 were calculated based on 12hr data

† Zadik et al Horm Res 1992

LUM-201 Normalizes GH Secretion in Moderate PGHD

Time period	Normal healthy (IC-GH‡)	Untreated GHD (IC-GH‡)	LUM-201 (baseline GH)*	LUM-201 (treat 6M GH)*	Comparator arm rhGH 34 µg/kg/day
	Zadik†		N = 22		Albertsson-Wikland††
12h (day) µg/kg.12hr	3.3 ± 1.3	1.1 ± 0.5	1.3 ± 1.0	2.6 ± 1.4	-
24h µg/kg/24hr	**5.0 ± 1.3**	1.4 ± 0.5	1.7 ± 1.3**	**3.3 ± 1.8 to 4.0 ± 2.1****	**~20**
Ratio 24:12(day)	1.52	1.27	1.27	1.27-1.52	-

Increasing 24-hour pulsatile secretion, LUM-201 achieves comparable growth to exogenous injectable rhGH, with only 20% of GH concentration levels

‡ IC-GH: integrated concentration of Growth Hormone; data represent mean ± standard deviation

*GH concentrations from the combined 1.6 and 3.2 mg/kg/day cohorts

**24hr GH concentrations for LUM-201 were calculated based on 12hr data

† Zadik et al Horm Res 1992

†† Adapted from data in Albertsson-Wikland et al JCEM 1994; 24h exposures listed reflect absorbance/bioavailability of ~60% of the administered dose

OraGrowthH212 Summary

- ✓All primary and secondary endpoints met

OraGrowthH212 Summary

- ✓All primary and secondary endpoints met
- ✓Increased 6- and 12-month annualized height velocity meaningfully from baseline

OraGrowthH212 Summary

- ✓All primary and secondary endpoints met
- ✓Increased 6- and 12-month annualized height velocity meaningfully from baseline
- ✓LUM-201 normalized IGF-1 SDS values within 6 months of treatment with durable effect

OraGrowtH212 Summary

- ✓All primary and secondary endpoints met
- ✓Increased 6- and 12-month annualized height velocity meaningfully from baseline
- ✓LUM-201 normalized IGF-1 SDS values within 6 months of treatment with durable effect
- ✓LUM-201 stimulates an increase in pulsatile secretion of GH approximating normal physiologic levels

OraGrowthH212 Summary

- ✓All primary and secondary endpoints met
- ✓Increased 6- and 12-month annualized height velocity meaningfully from baseline
- ✓LUM-201 normalized IGF-1 SDS values within 6 months of treatment with durable effect
- ✓LUM-201 stimulates an increase in pulsatile secretion of GH approximating normal physiologic levels
- ✓Increasing 24-hour pulsatile secretion, LUM-201 achieves comparable growth to daily exogenous injectable rhGH, with only 20% of GH concentration levels

Andrew Dauber, M.D., M.M.Sc.

OraGrowtH210 Trial

Review of Topline Data for Phase 2 OraGrowtH210 Trial

Evaluation of Oral LUM-201 in Moderate Idiopathic Pediatric Growth Hormone Deficiency (PGHD)

Andrew Dauber, MD MMSc
Chief of Endocrinology
Children's National Hospital

Children's National.

Disclosures

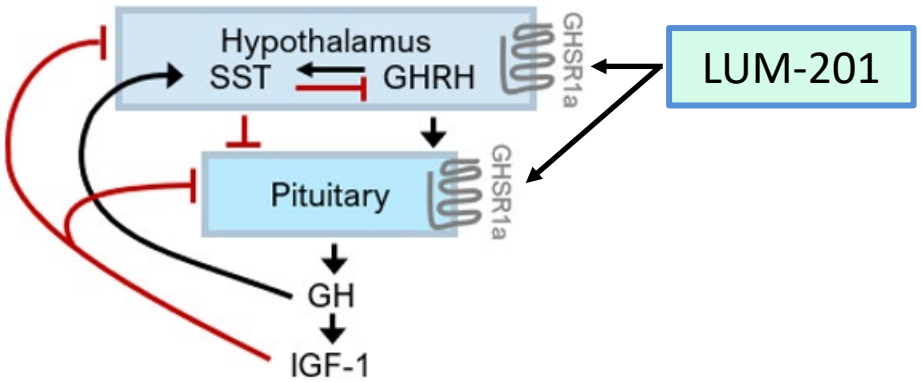
- Consulting fees or speaker honoraria:
  - Ascendis, OPKO, BridgeBio, Novo Nordisk, Pfizer, Ipsen, Sandoz
- Prior Research Support
  - Novo Nordisk, Ipsen, Pfizer
- Current Research Support
  - BioMarin, NICHD, Pfizer
- Site Investigator in Lumos OraGrowth210 Trial
- LUM-201 is an investigational compound and is not approved for use by the FDA or any other regulatory agency. Some of the slides in this presentation are derived or copied from corporate presentations previously given by Lumos Pharma, Inc. These slides are used with permission.

Single Stim Dose of LUM-201 Identifies Likely Responders

LUM-201

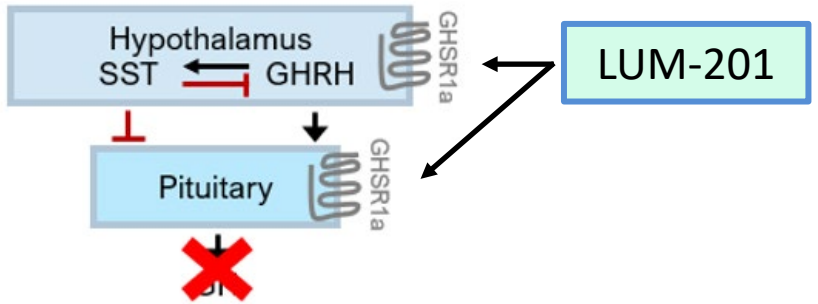
Single Stimulation Dose Identifies LUM-201 Responders

Moderate / Idiopathic PGHD
PEM-Positive
~60% of total PGHD population[1]



Responders to LUM-201[2]

Severe / Organic PGHD
PEM-Negative
~40% of total PGHD population



Non-Responders to LUM-201

Predictive Enrichment Marker Positive (PEM+)

- Baseline IGF-1 > 30 ng/ml
- Stim LUM-201 peak GH ≥ 5 ng/ml
- Functional but reduced HP-GH axis

Predictive Enrichment Marker Negative (PEM−)

- Baseline IGF-1 < 30 ng/ml
- Stim LUM-201 GH < 5 ng/ml
- Non-functional HP-GH axis

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[1] Blum 2021 JES [2] Bright 2021 JES

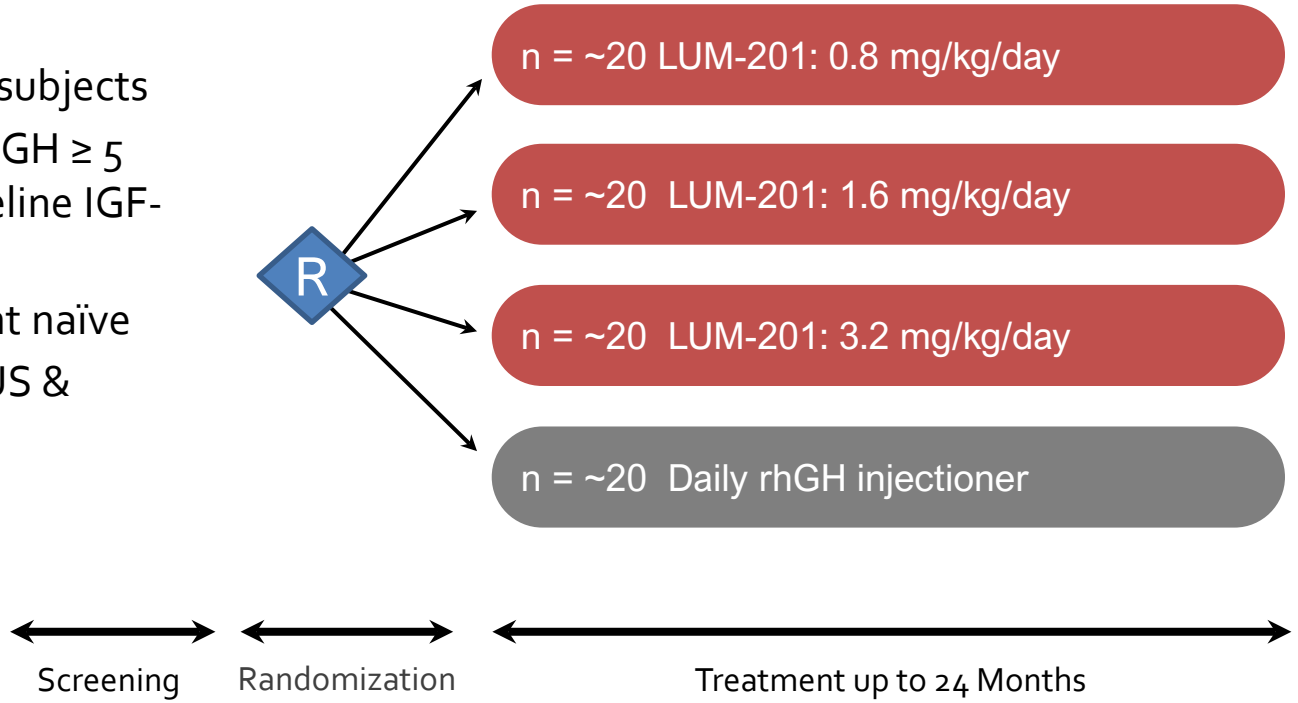
HP-GH axis – hypothalamic pituitary growth hormone axis

OraGrowtH210 Trial: Phase 2 Trial in Naïve Moderate PGHD

OraGrowtH210 TRIAL

- n = 82
- PEM(+) PGHD subjects
- Inclusion: stim GH ≥ 5 ng/ml and baseline IGF-1 >30 ng/ml
- rhGH treatment naïve
- ~45 trial sites US & International

Primary Outcome Data (n = **82**) – at **6 months** on therapy
Total Study Duration – 24 months



Objectives

Study Objectives:

- Prospectively confirm utility of PEM strategy
- Evaluate reproducibility of PEM classification
- Annualized Height Velocity (AHV)

Goals:

- Determine optimal dose for Phase 3

Study not powered to show statistical non-inferiority

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OraGrowtH210 Baseline Demographics

	LUM-201 0.8 mg Mean (SD) N=18	LUM-201 1.6 mg Mean (SD) N=22	LUM-201 3.2 mg Mean (SD) N=22	rhGH Mean (SD) N=19
Age (months)	101.3 (29.2)	95.2 (27.3)	94.5(21.1)	90.7 (23.7)
Height (cm)	116.4 (12.4)	113.6 (11.0)	113.8 (9.2)	112.9 (10.7)
Height SDS	-2.32 (0.30)	-2.33 (0.54)	-2.29 (0.59)	-2.19 (0.41)
IGF-1 SDS	-1.46 (0.62)	-1.38 (0.61)	-1.39 (0.53)	-1.25 (0.49)
MPH (cm)	165.3 (7.1)	164.9 (7.4)	167.4 (7.7)	169.4 (8.7)
MPH SDS Δ	-1.47 (0.67)	-1.61 (0.68)	-1.87 (0.59)	-1.94 (0.62)
BA Delay (yrs)	1.8 (0.9)	1.9 (0.8)	2.0 (0.9)	1.9 (0.9)
BMI SDS	-0.55 (1.10)	-0.18 (0.87)	-0.57 (0.99)	+0.16 (0.88)

SDS = Standard deviation score MPH = Mid-parental height (Child's target height)
MPH SDS delta = (Height SDS) – (MPH SDS) BA = Bone age BMI = Body mass index

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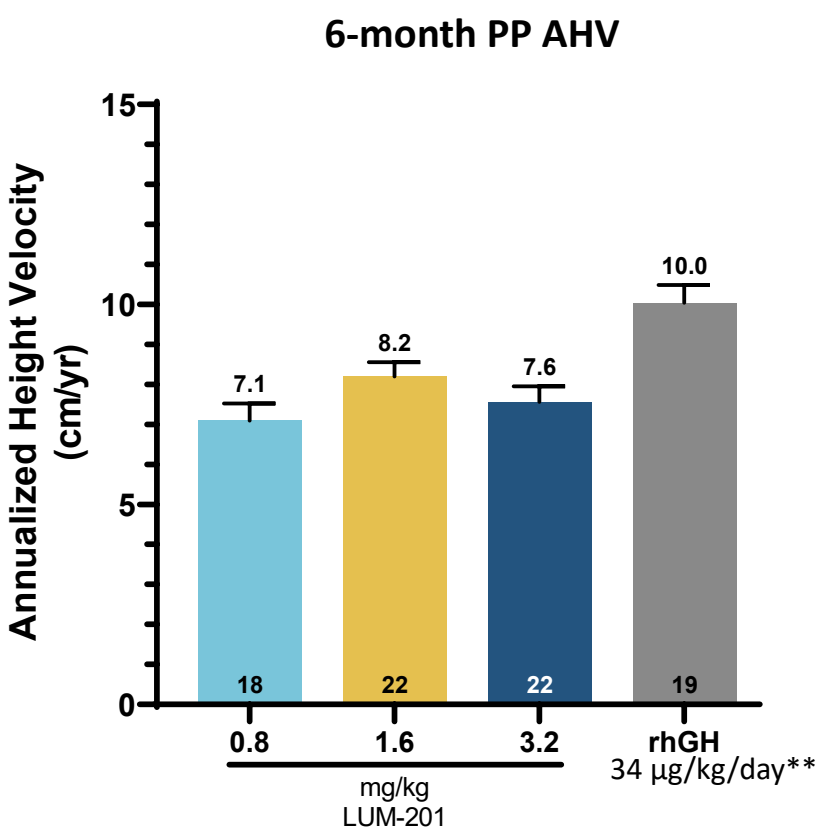
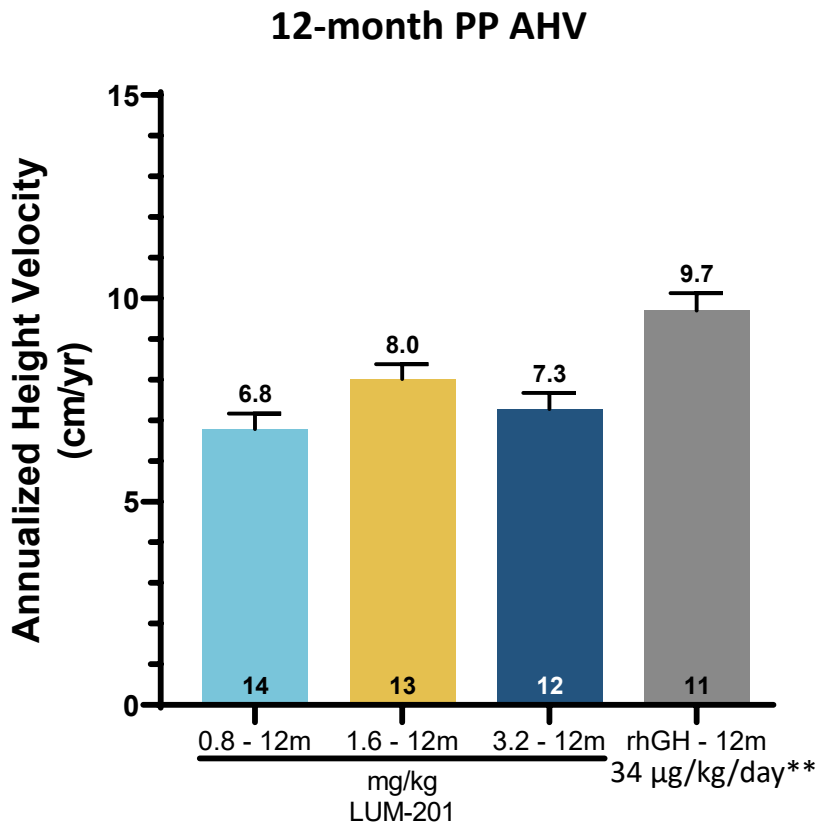
Met Primary Objective: 6 and 12-Month AHV Data Support 1.6 mg/kg as Optimal Dose for Phase 3





Highlights

- 1.6 mg/kg best performing LUM-201 cohort
  - Growth of 8.0 cm comparable to historical 12-month AHV for moderate population
- 1.7 cm difference between 1.6mg/kg and rhGH cohorts at 12 months
  - Differences less than 1.8 – 2.0 cm have been the historical Phase 3 non-inferiority margin for rhGH approvals

AHV ANCOVA Model Terms: treatment, Age at dose 1, Sex, Baseline HT SDS, Baseline BMI SDS, Baseline IGF-1 SDS, LUM-201 PEM, Baseline BA Delay, HT SDS-MPH SDS
Bars represent Least Squares Mean (LSM), Error bars represent the Standard Error of LSM
** Equates to 0.24 mg/kg/wk (approved rhGH dose range: 0.17-0.24 mg/kg/wk for Norditropin)

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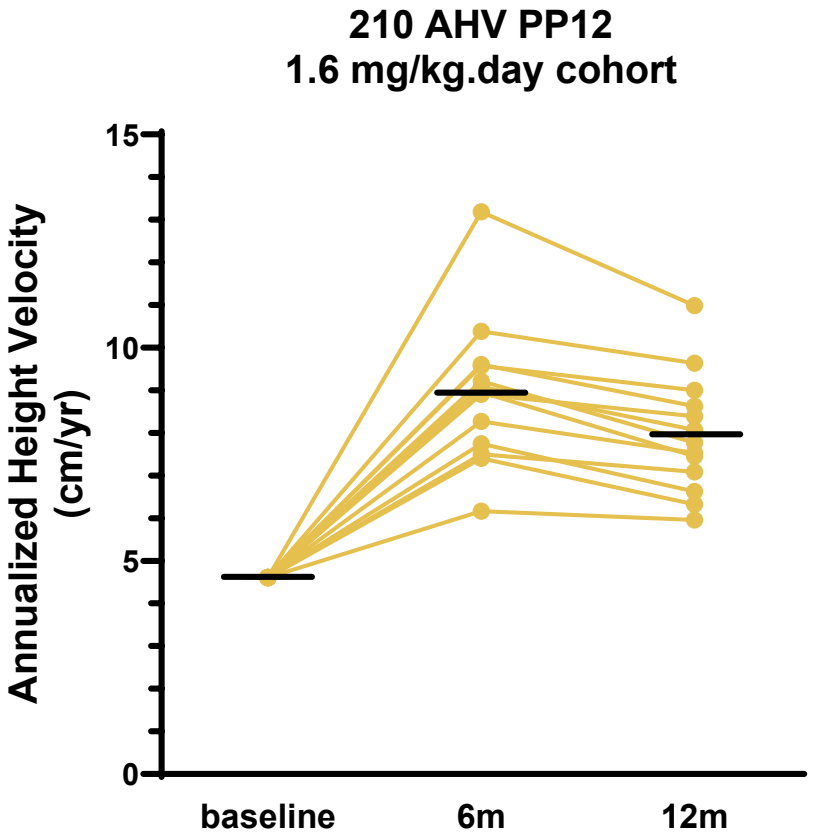
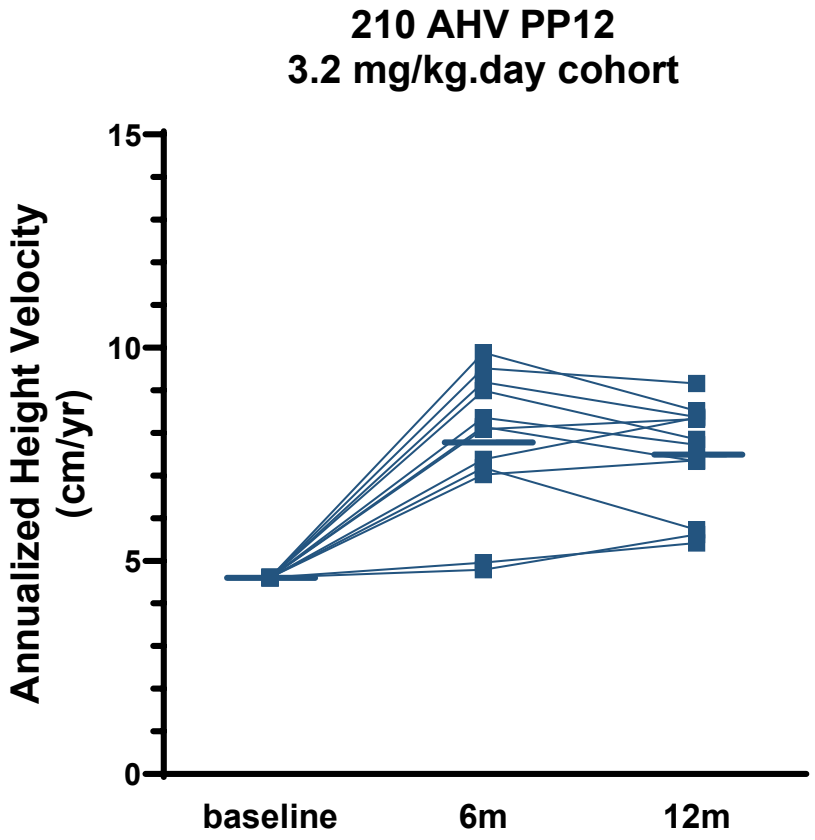
AHV After 6 and 12 Months of LUM-201 Treatment

At 100% Enrollment; Per Protocol 12-month Population





6-month Observations

- **LUM-201 raised the AHV (growth rate) from baseline after 6 months on therapy** for both the 1.6 mg/kg cohort and the 3.2 mg/kg cohort
- **AHVs durable to 12 months** on treatment for both doses
- No statistical difference exists between the two cohorts at each timepoint

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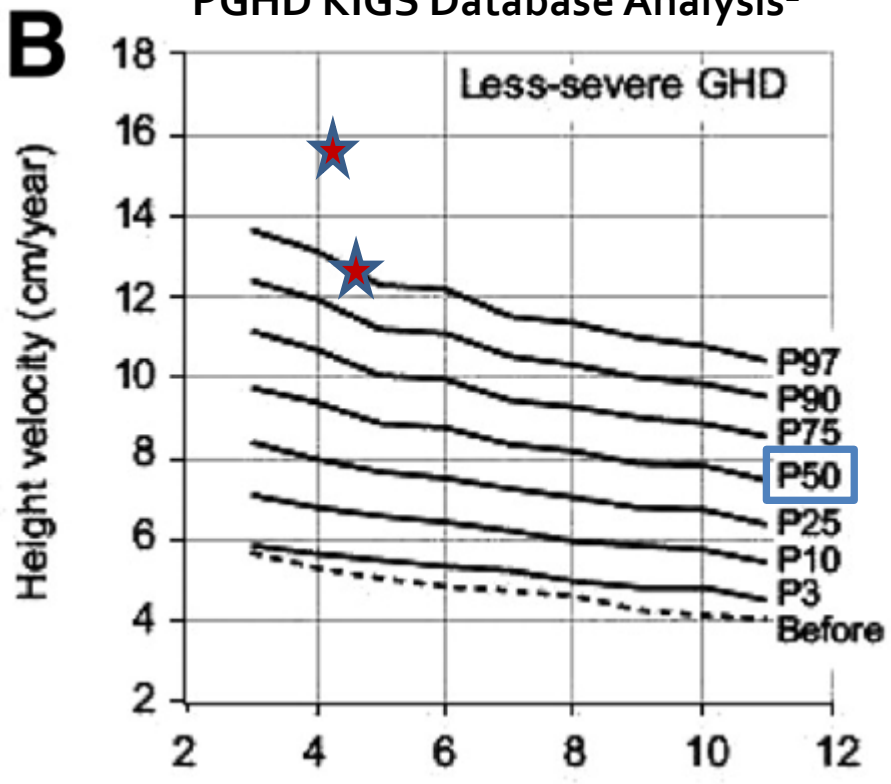
Baseline is mean AHV for all subjects with available baseline data; baseline AHV was not required information for trial.
"—" (dashes) within each graph represent mean AHVs at each treatment time interval for 1) Available N at Baseline and 2) Per protocol 12-month (PP12) N at 6 and 12 months

Growth Outliers in the rhGH Cohort:

Two of Three Subjects Under Age 5 Randomized to rhGH

First-year Growth on rhGH for Pfizer's Moderate PGHD KIGS Database Analysis[1]



OraGrowtH210 youngest subjects in rhGH cohort at 6-months AHV

Analysis of Pfizer's KIGS database of moderate PGHD[1]:

- Age at start of treatment is key predictor of growth on therapy
- **P** lines = Percentiles of expected growth on rhGH for moderate PGHD based on age started on therapy
- "Before" line marks height velocity before GH therapy

[1] Ranke, et al 2010 JCEM

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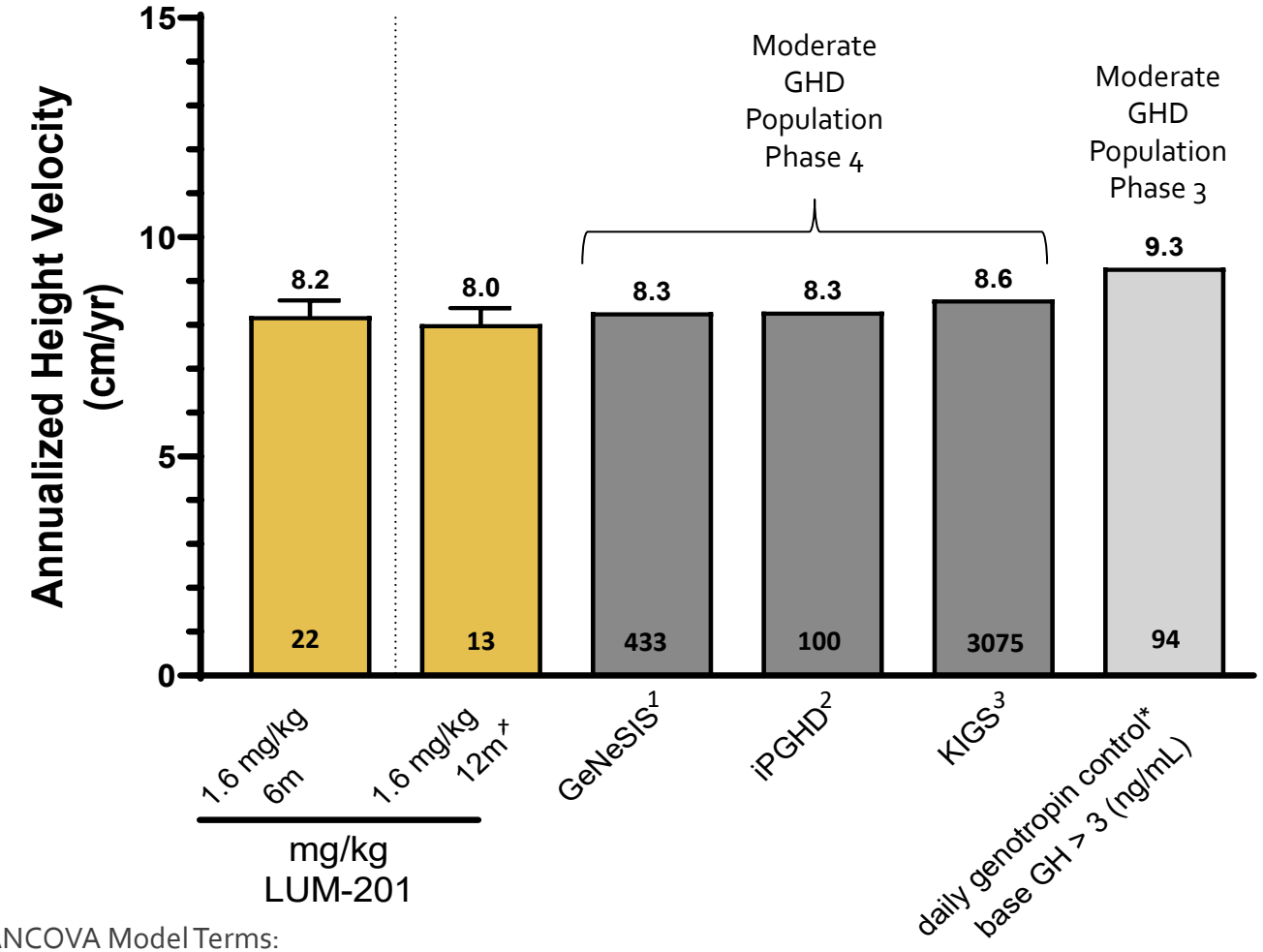
LUM-201 Growth Comparable to Multiple 12-Month Historical Datasets



Highlights

- AHVs range from 8.3-9.3 cm/yr in datasets of moderate PGHD patients treated with daily rhGH
- LUM-201 AHVs in line with historical rhGH growth rates in comparable patient populations

†AHV ANCOVA Model Terms:
Treatment, Age at dose 1, Sex, Baseline HT SDS, Baseline BMI SDS, Baseline IGF-1 SDS, LUM-201 PEM, Baseline BA Delay, HT SDS-MPH SDS
Bars represent Least Squares Mean (LSM), † Error bars represent the Standard Error of LSM
Sources: [1] Blum et al JES 2021, [2] Lechuga-Sancho et al JPEM 2009, [3] Ranke et al JCEM 2010
*Daily Genotropin control group for Somatrogon Ph3 dosed at 0.034 mg/kg/day (equates to 0.24 mg/kg/wk); subjects were stratified based on GH production during a standard stim test. JCEM Volume 107, Issue 7, July 2022, Pages e2717–e2728

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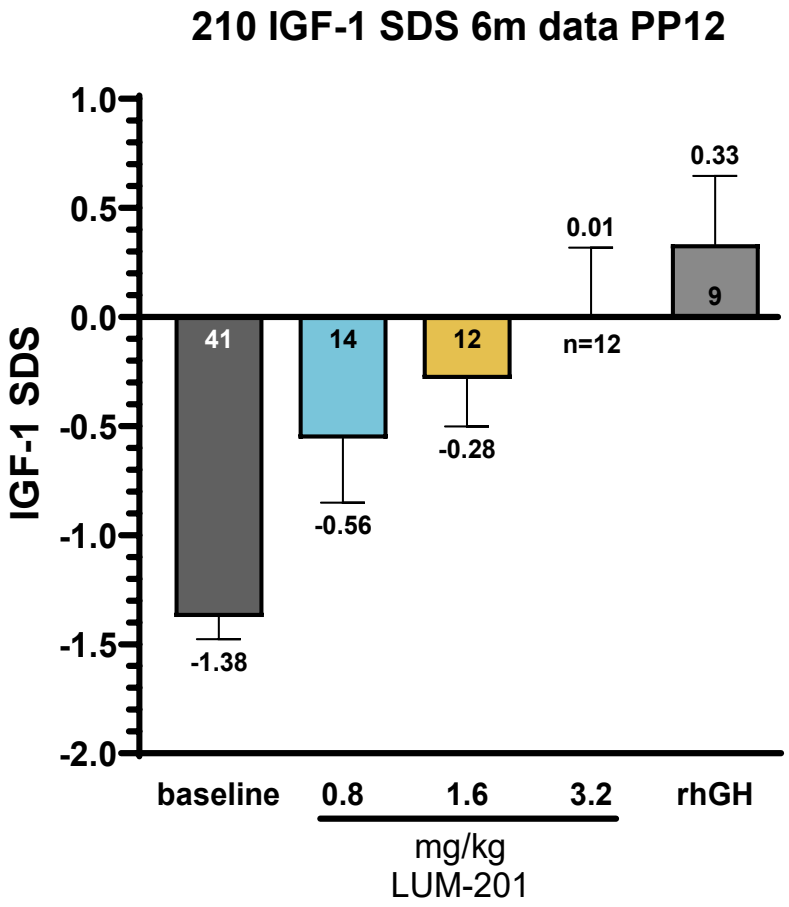
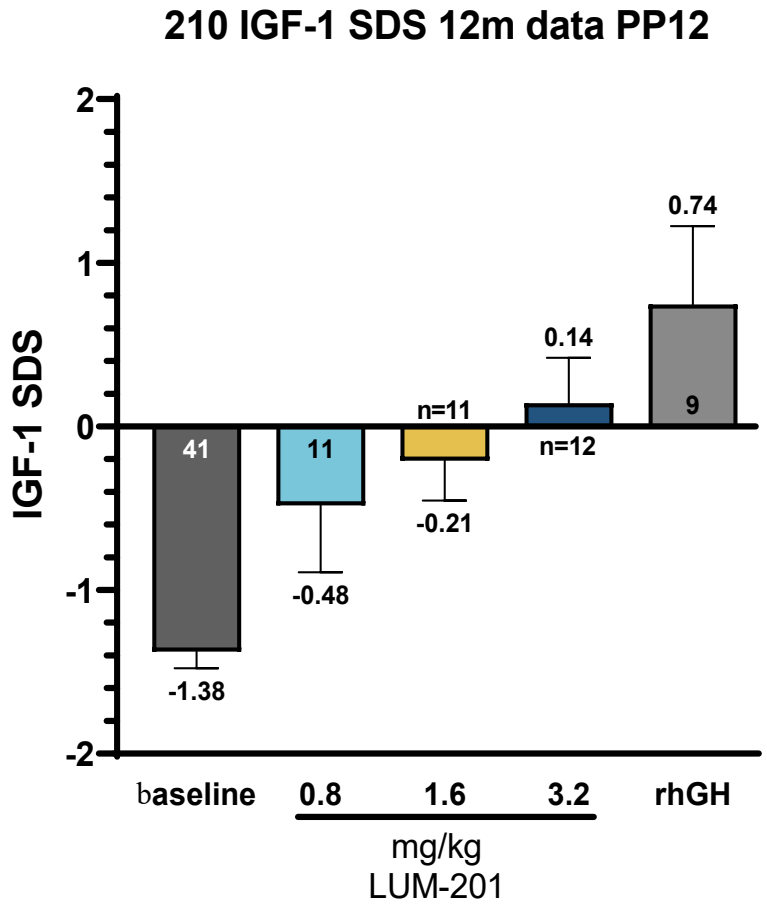
OraGrowtH210 Phase 2: IGF-1 Standard Deviation Score (SDS)
LUM-201 Normalizes IGF-1 SDS with Durable Effect out to 12 months





Highlights

- LUM-201 normalizes IGF-1 within 6 months
- Durable effect out to 12 months

Bars represent sample mean, and error bars represent Standard Error of the Mean

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OraGrowtH210 Summary

- ✓ All primary and secondary endpoints met
- ✓ LUM-201 AHV's consistent with pre-specified targets from historical benchmarks in moderate PGHD population
- ✓ AHV delta for LUM-201 1.6 mg/kg from comparator daily rhGH arm at 6- and 12-months is within the non-inferiority margin (difference less than 1.8 to 2.0 cm) typically used in Phase 3 pivotal trials for rhGH approvals
- ✓ LUM-201 normalizes IGF-1 SDS within 6 months on treatment
- ✓ Investigational product safety profile remains clean after >1,300 patients treated to date[1]
- ✓ Phase 2 results support advancing to Phase 3 with final design to be confirmed following EOP2 FDA meeting, anticipated in 1H 2024

[1] Includes adult and pediatric subjects from prior Merck studies

EOP2 = End of Phase 2

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Leslie Soyka, M.D.

PEM Strategy and

Combined OraGrowtH210 and OraGrowtH212 Data

Leslie Soyka, MD - Disclosures

Dr. Soyka is an investigator for the OraGrowtH210 Trial evaluating LUM-201 in Moderate Pediatric Growth Hormone Deficiency (PGHD).

Dr. Soyka also currently serves as a site investigator for Novo Nordisk's somapacitan (Sogroya®) trial for children with non-GH deficient short stature.

Dr. Soyka has also served as a site investigator for the evaluation of the Pfizer/Opko long-acting therapeutic, NGENLA™ (somatrogon), for children with growth hormone deficiency. In addition, Dr. Soyka has previously participated as investigator in Tercica trials evaluating rhGh+ IGF-1 combo and IGF-1 monotherapy as well as Versartis trials evaluating somavaratan in PGHD.

LUM-201 is an investigational compound and is not approved for use by the FDA or any other regulatory agency. Some of the slides in this presentation are derived or copied from corporate presentations previously given by Lumos Pharma, Inc. These slides are used with permission.

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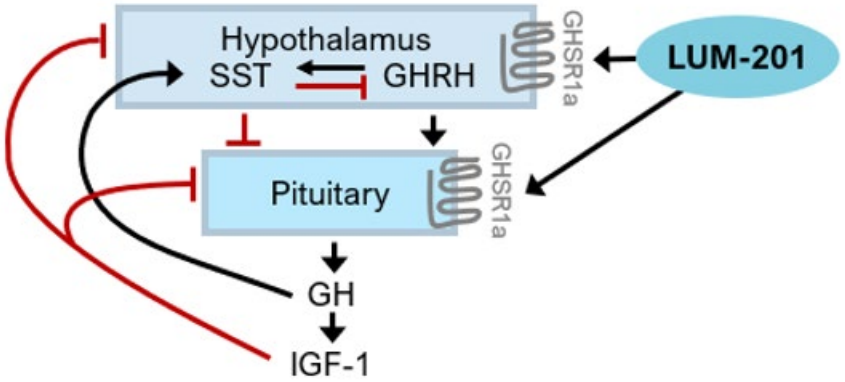
PEMs Enrich Trials for Patients Likely to Respond to LUM-201

Moderate PGHD
PEM-Positive
~60% of total PGHD population[1]



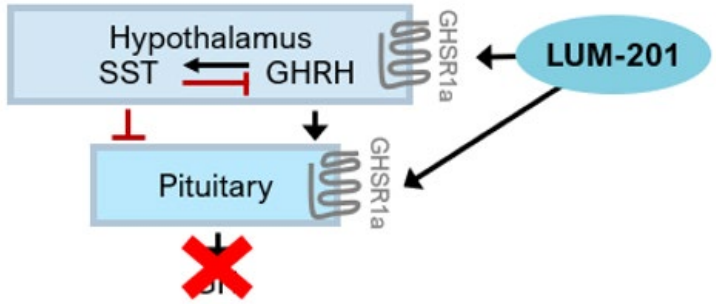
Responders to LUM-201[2]

Predictive Enrichment Marker Positive (PEM+)
- Baseline IGF-1 > 30 ng/ml
- Stimulation LUM-201 peak GH ≥ 5 ng/ml
- Functional but reduced HP-GH axis

LUM-201

Single Stimulation Dose Identifies LUM-201 Responders

Severe PGHD
PEM-Negative
~40% of total PGHD population



Non-Responders to LUM-201

Predictive Enrichment Marker Negative (PEM)
- Baseline IGF-1 < 30 ng/ml
- Stimulation LUM-201 peak GH < 5 ng/ml
- Non-functional HP-GH axis

[1] Blum 2021 JES [2] Bright 2021 JES

HP-GH axis – hypothalamic pituitary growth hormone axis

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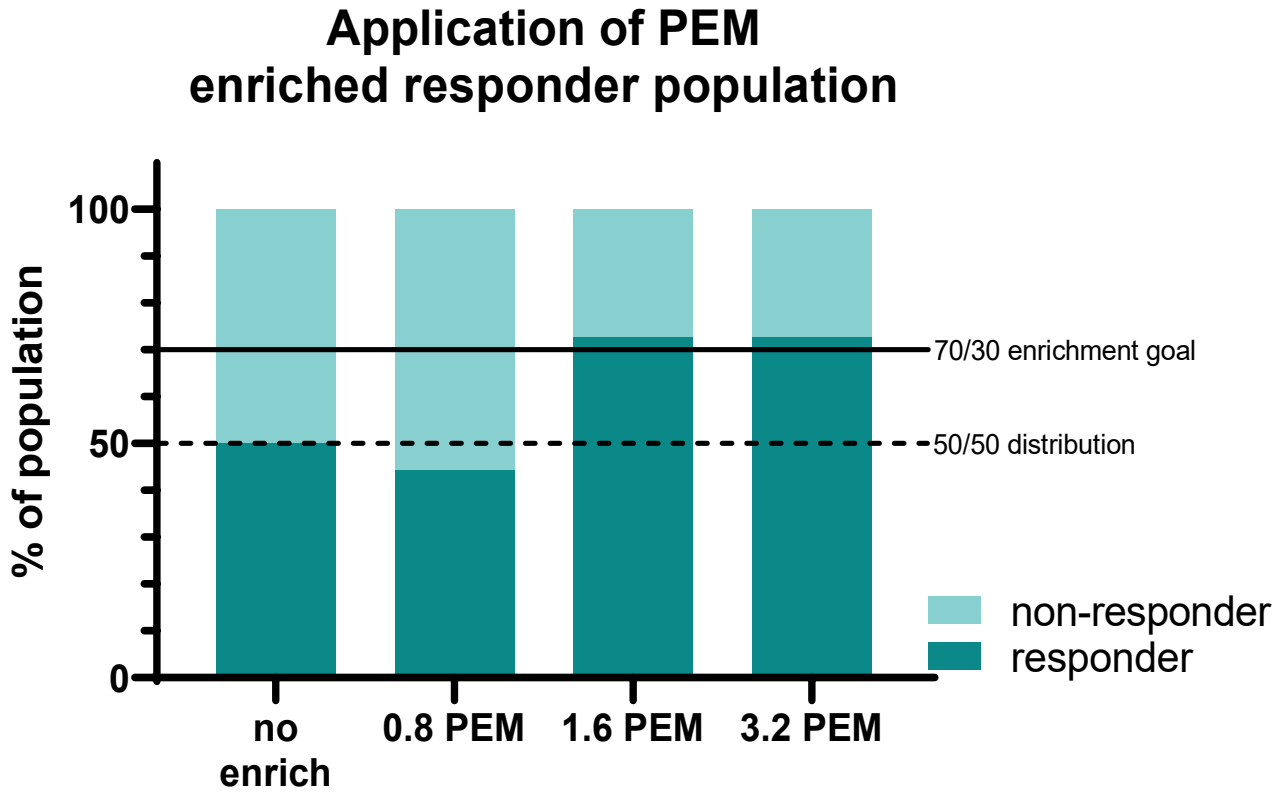
OraGrowtH210 Met Primary Statistical Objective: PEM enriches the responder population (6 Month Data)



Highlights

- PEM test ensures patients enrolled in the study are capable of secreting GH in response to a single-dose of LUM-201
- PEM-positive criteria:
  - PGHD patients with baseline IGF-1 >30 ng/ml
  - Peak stimulated GH ≥ 5 ng/ml after a single 0.8 mg/kg dose of LUM-201

Enrichment strategy demonstrated that >70% of PEM+ subjects met pre-specified target growth in 1.6 and 3.2 mg/kg/day cohorts

The no-enrichment bar represents the Merck 020 study 0.8 mg/kg LUM-201 cohort consisting of both PEM-positive & PEM-negative Subjects. The 50% line represents the mean AHV from that cohort.

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OraGrowtH210 Secondary Statistical Objective: PEM test yields highly reproducible results

PEM Test Reproducibility	
Subjects with Positive Agreement on PEM Tests	76/76
Reproducibility Rate	100%
95% Confidence Interval	(95.3%, 100%)

PEM positive classification was 100% reproducible and exceeded pre-specified statistical objective

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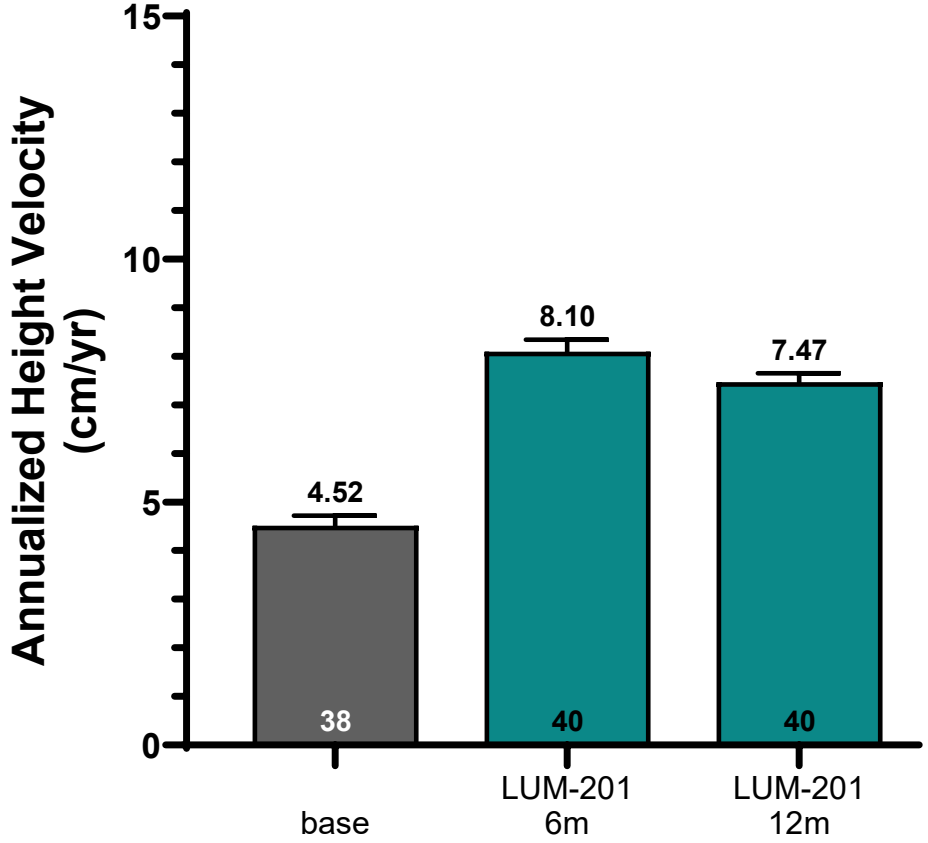
LUM-201 Demonstrates Durability of Response to 12 Months OraGrowtH210 & OraGrowtH212 Combined (1.6 and 3.2 mg/kg LUM-201)

Combined PP 12 Month AHV Data from OraGrowtH210 & OraGrowtH212 Trials*



Conclusions

- Combined 12-month PP data from OraGrowtH210 and OraGrowtH212 Trials demonstrate
  - Substantial increase in AHV from baseline
  - Durable response out to 12 months

*Pre-treatment baseline AHV was not required for these studies, but available data shown

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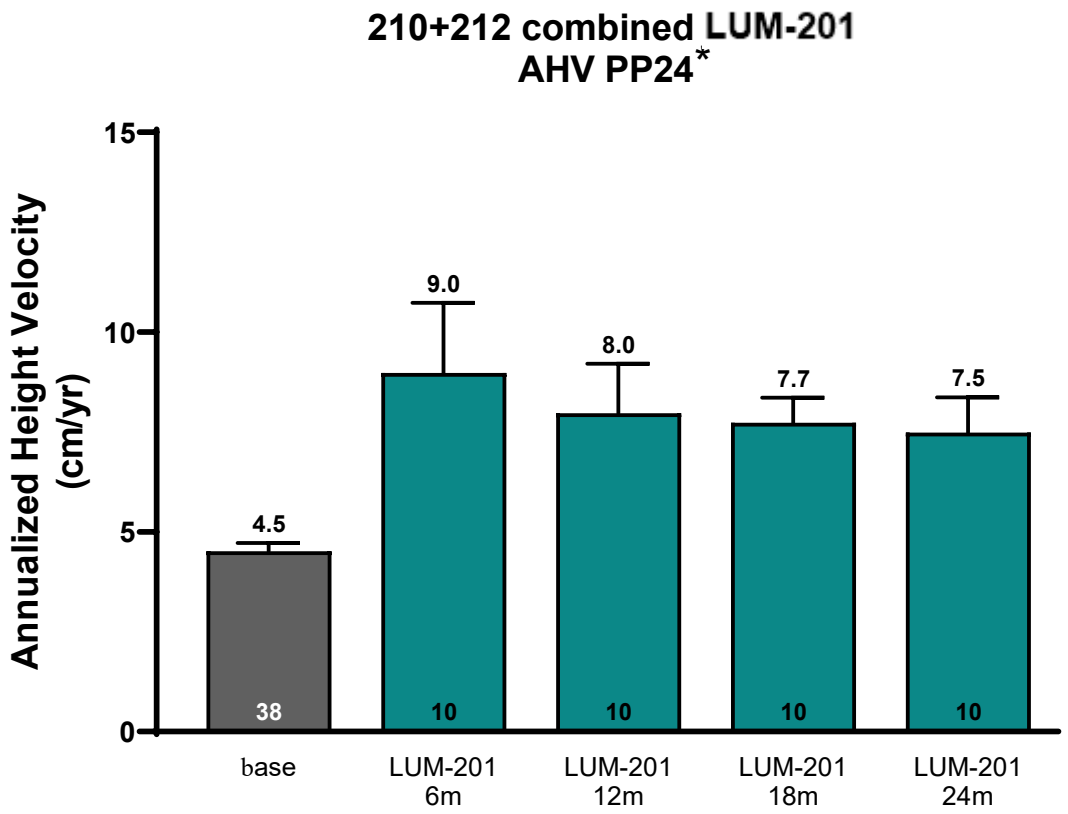
LUM-201 Data Suggests Greater Durability of Response than rhGH to 24 Months OraGrowtH210 & OraGrowtH212 Combined (1.6 and 3.2 mg/kg LUM-201)



Highlights

- Preliminary data demonstrate LUM-201 AHV durable to 24 months

* At 24 months, data include a subset of subjects from OraGrowtH210 trial who met protocol criteria to continue past 12 months.
** Ranke et.al. 2010 – rhGH treated cohort of moderate GHD children;
Mean AHV for the moderate GHD cohorts were 8.58 cm/yr in year 1 and 6.89 cm/yr in year 2.

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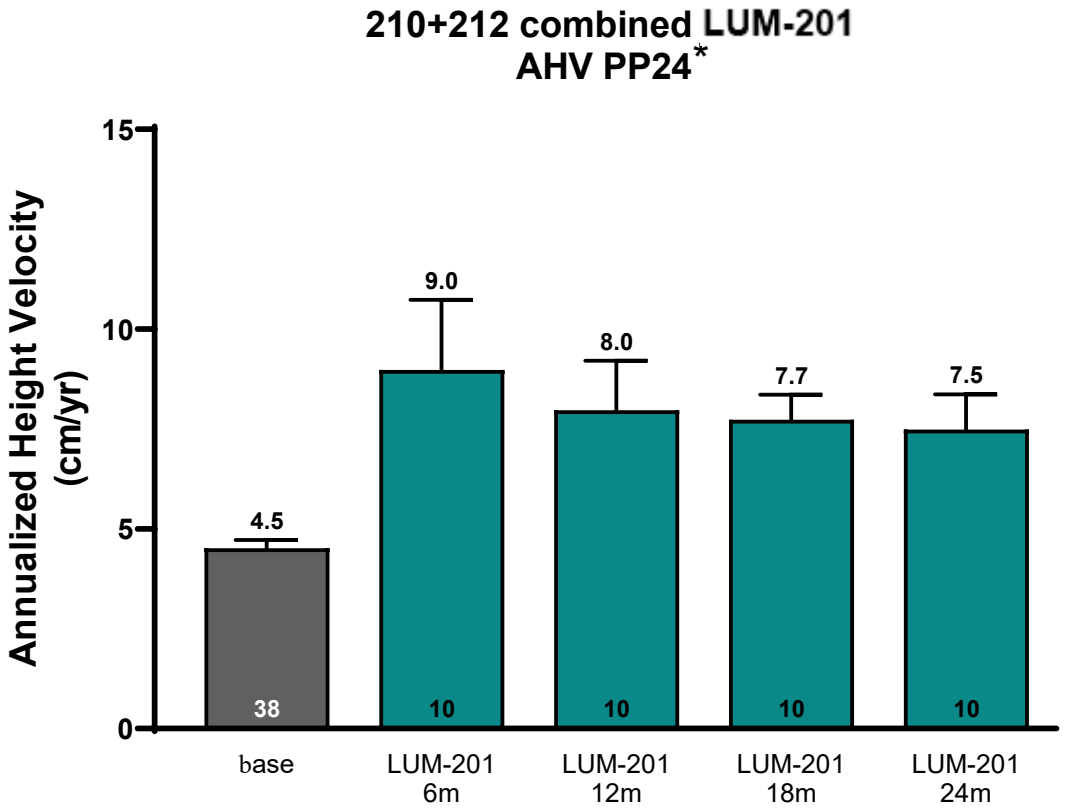
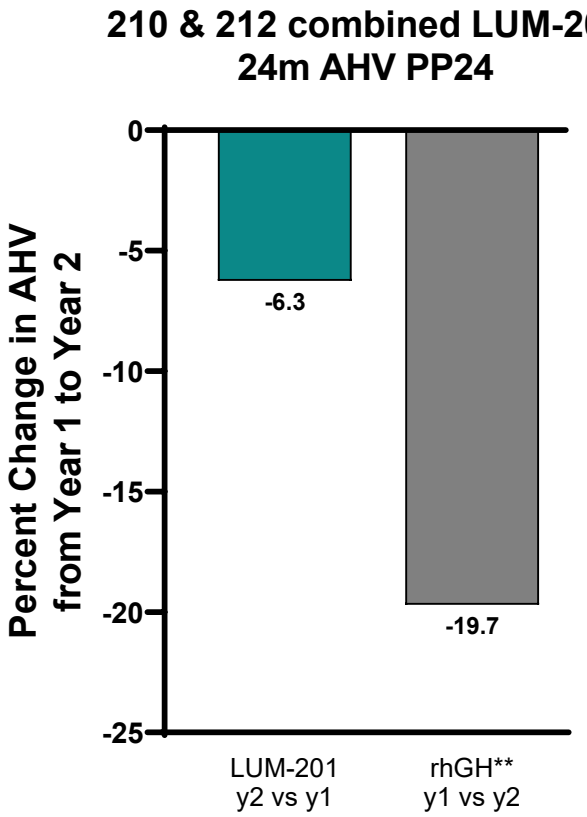
LUM-201 Data Suggests Greater Durability of Response than rhGH to 24 Months OraGrowtH210 & OraGrowtH212 Combined (1.6 and 3.2 mg/kg LUM-201)





Highlights

- Preliminary data demonstrate LUM-201 AHV durable to 24 months
- More moderate year 2 AHV decline than rhGH likely due to LUM-201 restoration of GH and IGF-1 to normal levels via pulsatile secretion

* At 24 months, data include a subset of subjects from OraGrowtH210 trial who met protocol criteria to continue past 12 months.
** Ranke et.al. 2010 – rhGH treated cohort of moderate GHD children;
Mean AHV for the moderate GHD cohorts were 8.58 cm/yr in year 1 and 6.89 cm/yr in year 2.

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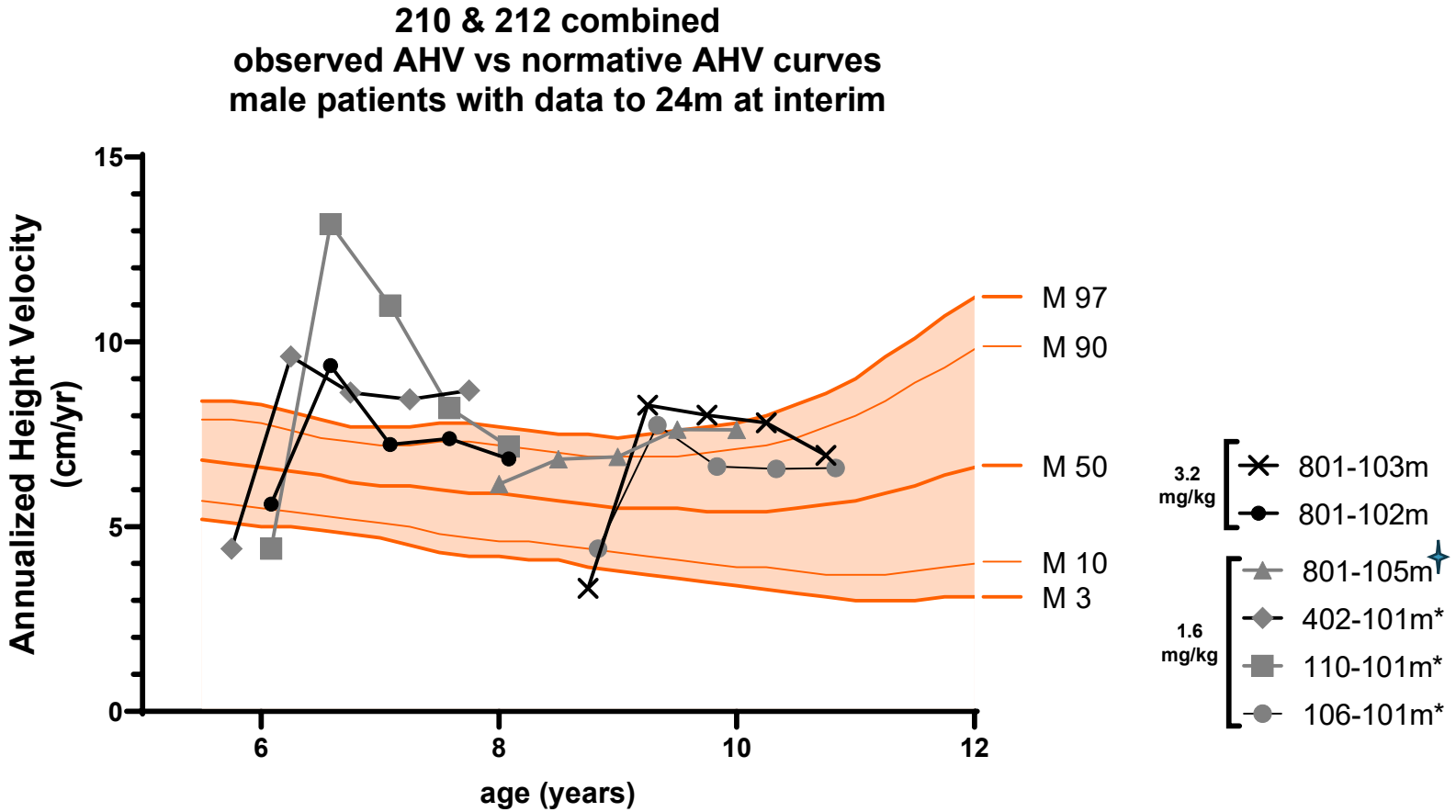
Restoration of Normal Growth Rate with LUM-201 Treatment – Male Subjects

Annualized height velocities (AHV) of children from the 210 and 212 Trial plotted against normative AHV data by age

Normative data from Kelly et.al. 2014 JCEM; Supplemental Table 2a

Each connected set of points represents individual patient AHVs calculated at:

- Baseline
- 6 months on treatment
- 12 months on treatment
- 18 months on treatment
- 24 months on treatment



✦Patient baseline AHV reported, not measured, with possibility for error. Patient was diagnosed with PGHD and met OraGrowtH Trial inclusion criteria.
*Patient missing baseline AHV; the mean baseline AHV for 212 baseline data set (4.4 cm/yr) was substituted for the baseline value.

Kelly et.al. Age-Based Reference Ranges for Annual Height Velocity in US Children, *The Journal of Clinical Endocrinology & Metabolism*, Volume 99, Issue 6, 1 June 2014, Pages 2104-2112 https://doi.org/10.1210/jc.2013-4455

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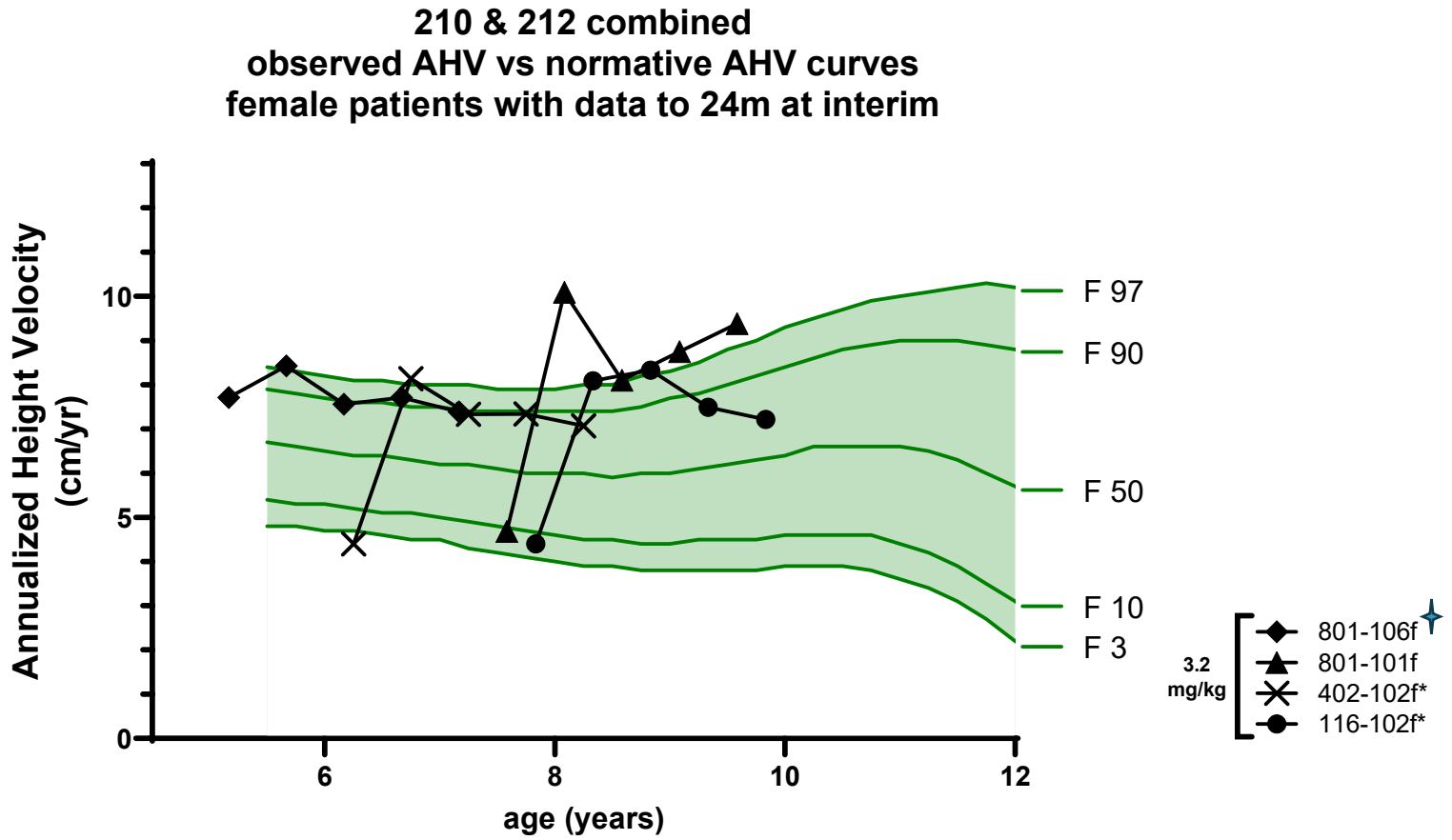
Restoration of Normal Growth Rate with LUM-201 Treatment – Female Subjects

Annualized height velocities (AHV) of children from the 210 and 212 Trial plotted against normative AHV data by age

Normative data from Kelly et.al. 2014 JCEM; Supplemental Table 2a

Each connected set of points represents individual patient AHVs calculated at:

- Baseline
- 6 months on treatment
- 12 months on treatment
- 18 months on treatment
- 24 months on treatment



✦Patient baseline AHV reported, not measured, with possibility for error. Patient was diagnosed with PGHD and met OraGrowtH Trial inclusion criteria.
*Patient missing baseline AHV; the mean baseline AHV for 212 baseline data set (4.4 cm/yr) was substituted for the baseline value.

Kelly et.al. Age-Based Reference Ranges for Annual Height Velocity in US Children, *The Journal of Clinical Endocrinology & Metabolism*, Volume 99, Issue 6, 1 June 2014, Pages 2104-2112 https://doi.org/10.1210/jc.2013-4455

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Safety Data from Combined '210 & '212 Trials

	PEM	0.8 mg/kg	1.6 mg/kg	3.2 mg/kg	rhGH
	N =129	N =18	N =33	N=33	N =20
Number of AEs	38	59	155	150	54
Subjects with AE (%)	24 (18.6 %)	14 (77.8%)	31 (93.9%)	30 (90.9%)	16 (80.0%)
Treatment Related AEs *	7	2	17	20	6
Subjects with Treatment Related AEs (%)	4 (3.1%)	1 (5.6%)	13 (39.4%)	13 (39.4%)	5 (25.0%)
Subjects with SAEs (%)	0 (0%)	2[#] (11.1%)	1 (3.0%)	0 (0%)	1[##] (5.0%)
Subject with Treatment Related SAEs (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0.0%)

Topline Safety Results

- No meaningful treatment-related Serious Adverse Events (SAEs)
- No drop-outs due to SAEs or AEs
- No meaningful safety signals observed in laboratory values, adverse events data, or in EKG values to date
- * Treatment related AEs in 1.6 and 3.2 groups: Increased appetite (23), Pain in extremity (7), Arthralgia (5), Abdominal pain (1), Transaminases Increased (1)

[#] One subject had SAE between PEM dose and randomized dose

[##] Subject had SAE between PEM dose and randomized dose

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Questions & Answers