lumos PHARMA

Transforming Lives with Rare Focus

Corporate Presentation

October 2025

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January 2025

Late-Stage Opportunity to Disrupt $4.7B GH Market[1] with Potential Further Utility in $100B+ Cardiometabolic Market

Attractive Market Opportunity	• $4.7B Global growth hormone (GH) market projected to grow to ~$8B by 2031
	  • Primed for conversion to oral therapy[2]
	• Potential for improving quality of weight loss in combination with incretin mimetics
	  • Monotherapy data in humans demonstrates marked and durable improvements in body composition[3]

Novel Asset with Unique MOA	• Unlike current therapies, oral LUM-201's novel MOA takes advantage of natural physiology • Orphan Drug Designation in US/EU and IP protection through 2042 in the US for novel formulation
Clear Proof of Concept in PGHD	• PEM strategy de-risks patient selection, identifying likely LUM-201 responders[4] • Phase 2 trials met all primary and secondary endpoints and significantly increased AHV vs baseline • Consistent PK/PD and attractive investigational safety profile to date in > 1,300 subjects studied
Regulatory Path Clarity	• Study may proceed letter received early 2025 for a Global Phase 3 placebo-controlled trial • Initiation of Global Phase 3 trial anticipated by end of 2025 for 150 patients

Potential for 1st oral therapeutic to disrupt injectable GHD market with additional value inflection point from Phase 2 obesity study

[1]Based on gross sales of rhGH worldwide; [2]"GHD Market by End User", SNS Insider and internal market research conducted by Triangle Insights
[3]Nass 2008 Ann Intern Med (Supplemental Information); [4]PEM (Predictive Enrichment Marker) investigational strategy consists of screening for PEM-positive PGHD patients = Baseline IGF-1 > 30 ng/ml & Peak stimulation GH ≥ 5 ng/ml from single oral dose of LUM-201

Management Team
Significant Clinical Development and Commercial Experience

John McKew, PhD
President & Chief Scientific Officer

Prior VP of Research at aTyr Pharma - led research team advancing protein-based therapeutics for rare diseases. Former Scientific Director, NIH - National Center for Advancing Translational Science (NCATS) and Therapeutics for Rare and Neglected Diseases (TRND).

Pisit "Duke" Pitukcheewanont, MD
Chief Medical Officer

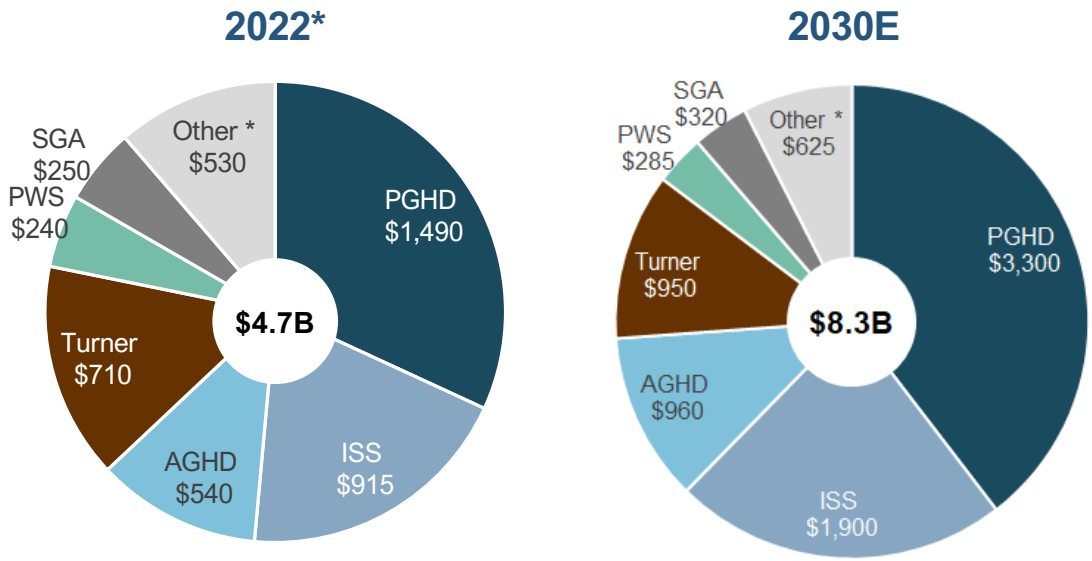
Pediatric endocrinologist and Professor, Clinical Pediatrics, Keck School of Medicine, USC. President, Human Growth Foundation. Former VP Medical Affairs and VP Global Medical Ambassador & Medical Education at Ascendis Pharma; project: long-acting TransCon GH. Former Advisory Board member at Pfizer, Ipsen, Alexion, Ultragenyx, Pharmacia, Serono, others.

Lori Lawley, CPA
Chief Financial Officer

Former SVP, Finance and Controller at Lumos Pharma. Previously, SVP, Finance and Member of the Office of the CEO of NewLink Genetics. Prior to that, Senior Manager in Assurance Services at Ernst and Young.

Market Opportunity for Oral LUM-201
rhGH Market Projected to Grow through Launch Window

rhGH Global Sales by Indication (Gross, US$ MM)



Global rhGH Market expected to grow by 7.5% CAGR through 2030, reaching $8.3B

Key Growth Drivers

- Long-acting rhGH products addressing limitations of daily rhGH treatment burden
- Growing awareness about GH related diseases
- Increasing healthcare access and spend in developing regions

Key Hurdles

- Very mature market
- Pricing pressures
- Inconsistent reimbursement policies

* Includes ~$350M in China sales, indication undisclosed, and ~$65M in Japan sales, Other / Undetermined; also includes global sales for other short stature syndromes such as Noonan Syndrome, SHOX deficiency, cancer cachexia, etc.

Source: Internal Lumos GH Market Assessment, based on: EvaluatePharma consensus estimates, GlobalData, "GHD Forecast", 2021/04; Grand View Research, "hGH Market Analysis and Segment Forecast", updated 2022 Q1; IQVIA/MIDAS; Japan Pricing Research (Satoru GK, 2023); Regional market participant interviews; Lumos/Akrolyth Analysis

LUM-201 Program Pipeline

	Study	Pre-Clinical	Phase 1	Phase 2	Phase 3	Status
LUM-201 (Ibutamoren) in Moderate PGHD	Global PH3 Trial	OraGrowtH PHASE 3 TRIAL				Global Phase 3 trial to be initiated by end of 2025 2-arm, placebo-controlled trial, 150 patients
	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 met endpoints (Nov 2023) Data confirms LUM-201's pulsatile MOA
	Switch trial	OraGrowtH213 TRIAL				Switch trial evaluating LUM-201 in subjects from rhGH arm of OraGrowtH210 Trial
LUM-201 in NAFLD	Phase 2 pilot trial	MGH pilot trial				Pilot trial by Mass Gen Hospital (MGH) evaluating LUM-201 in NAFLD: completed

Lumos Pharma advancing plans for LUM-201 for PH 2 cardiometabolic in 2026, ISS, and SGA

PGHD Pediatric Growth Hormone Deficiency NAFLD Non-Alcoholic Fatty Liver Disease SGA = Small for Gestational Age ISS = Idiopathic Short Stature

MGH 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.

Pediatric Growth Hormone Deficiency (PGHD) – Conversion from Injection to Oral

What is PGHD?

Inadequate secretion of growth hormone during childhood

- Majority of cases are moderate
- Slower physical growth
- Negative effect on metabolic processes
- Incidence ≈ 1:3500[1]

Current Treatment

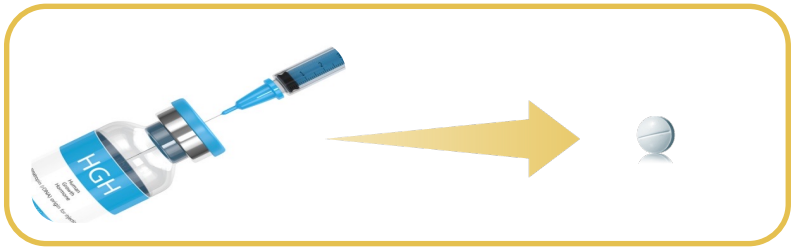
Injectable therapies are only options

- Daily, subcutaneous injections of recombinant human growth hormone (rhGH) represent standard of care
- Weekly rhGH injections are entering the market

Unmet Need

Standard treatment is ~2,500 daily injections over multi-year period

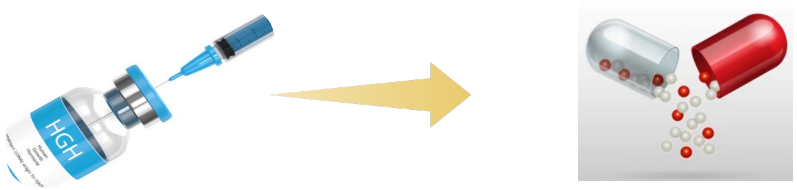
- Injections can be painful and burdensome
- Missed doses lead to suboptimal growth[2,3]
- **Initial market research supports oral therapy vs weekly injections**



An established market is now primed for the first oral alternative

[1] GlobalData EpiCast Report for Growth Hormone Deficiency Epidemiology forecast to 2026
[2] Rosenfeld 2008 Endocrine Practice
[3] Cutfield 2011 PLOS ONE

Value Proposition



	Current SOC	LUM-201
Route of Administration	Daily injections	Oral
MOA	Synthetic GH	Natural pulsatile GH
Physiology	Exogenous / Supraphysiological	Endogenous / Normal
GH Concentration	4-5X Normal	Normal
IGF-1 Excursions	Often	Rare
Compliance	(-)	+
COGS	High	Low

LUM-201 Augments Endogenous Pulsatile Release of Growth Hormone

Single Daily Bolus Injection of Exogenous rhGH

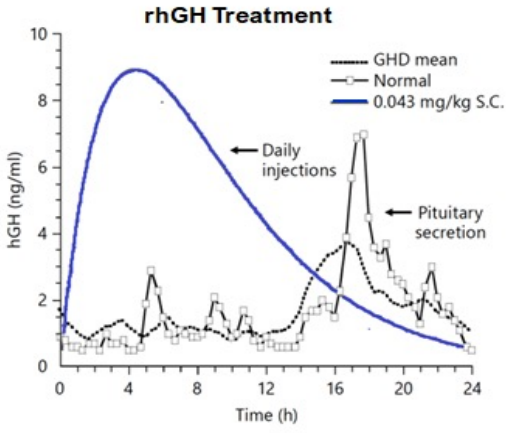


Figure 1

Single Daily Dose of LUM-201 (3.2 mg/kg/day)

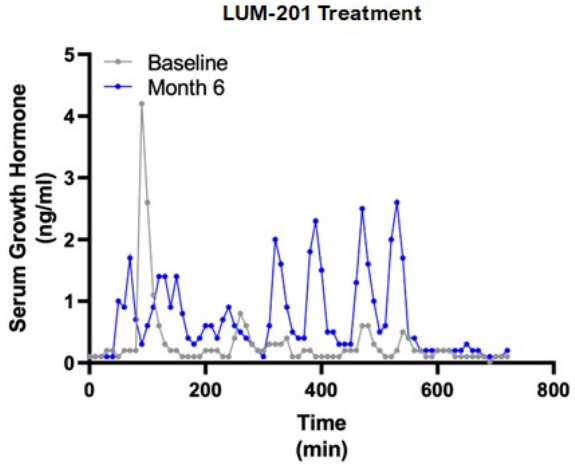


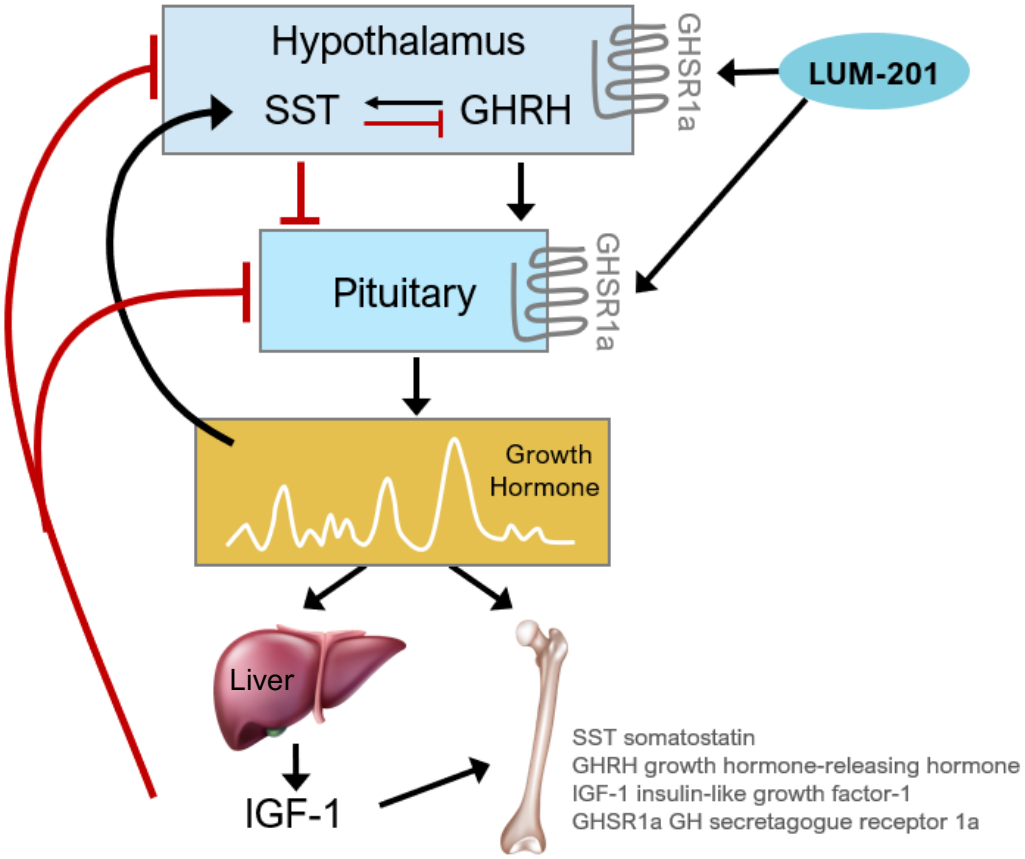
Figure 2

LUM-201 Value Proposition

- Daily oral therapy
- Normalizes GH and IGF-1 levels through increase in endogenous pulsatile release of Growth Hormone levels
- Consistent PD effect over 24 hours*
- MOA avoids risk of IGF-1 excursions
- Favorable investigational safety profile with >1,300 patients treated to date

Figure 1: Advanced Therapies in Pediatric Endocrinology and Diabetology. Endocr Dev. Basel, Karger, 2016
Figure 2: : Cassorla, F, et al. IMPE, March 2023; GH concentrations sampled every 10 minutes for 12-hour period at baseline and after six months of daily oral treatment
* Merck 020 study

LUM-201 Restores Natural Growth Hormone & IGF-1 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] normalizing GH levels after 6 months on therapy[4]
- 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 [4] Supported by Lumos Pharma Topline Phase 2 Data

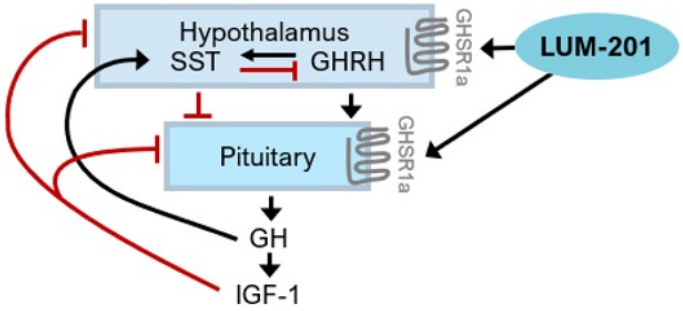
* GH secretagogue = molecule that stimulates the secretion of growth hormone (GH)

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

LUM-201

Single Stimulation Dose (0.8 mg/kg) Identifies LUM-201 Responders

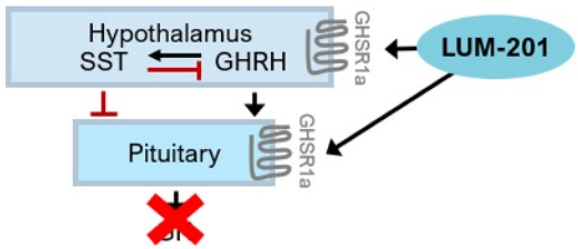
Moderate PGHD (PEM-Positive)
Majority of PGHD population[1]



Responders to LUM-201[2]

Predictive Enrichment Marker Positive (PEM+)
- 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
- Functional but reduced HP-GH axis

Severe PGHD (PEM-Negative)
Small subset of PGHD population



Non-Responders to LUM-201

Predictive Enrichment Marker Negative (PEM−)
- 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
- Non-functional HP-GH axis

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

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

HP-GH axis – hypothalamic pituitary growth hormone axis

Key Milestones Provide Clear Regulatory Pathway

Key Milestones Support Path for Oral LUM-201 to Disrupt Injectable GH Market

- Positive End-of-Phase 2 meeting with FDA supportive of registrational path forward
  - FDA recognized LUM-201, a growth hormone secretagogue, as a novel growth promoter
  - FDA acknowledged the use of a placebo-controlled clinical trial design as an appropriate option for a LUM-201 Phase 3 Trial
- Phase 3 initiation expected by end of 2025
  - Study may proceed letter received from the FDA beginning of 2025
  - We believe the design of the Global Phase 3 Trial should reduce regulatory risk and improve likelihood of success

LUM-201 History

MERCK

Developed LUM-201 to improve health span

>1,200 subjects studied, primarily elderly adults

- √ GH Levels ↑
- √ IGF levels ↑
- √ Consistent improvements in body composition[1]
- √ Sustained Effect to 24 months[1]

- Discontinued for strategic reasons

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Performed post hoc analysis of PGHD study and developed clinical enrichment strategy[2]

104 PGHD subjects treated in two Phase 2 studies:

- ✓ OraGrowtH210 – PEM* strategy validation and dose selection for Phase 3, n = 82
- ✓ OraGrowth212 – PK/PD demonstrating pulsatility MOA differentiation, n = 22
- ✓ Encouraging investigational safety profile at doses almost 4X higher than dose previously used in adult studies
- ✓ New patent estate around PEM strategy, formulation, and methods of treatment

→ Phase 3 global placebo-controlled study in PEM+ PGHD subjects planned to initiate by end of 2025

**Predictive Enrichment Marker*

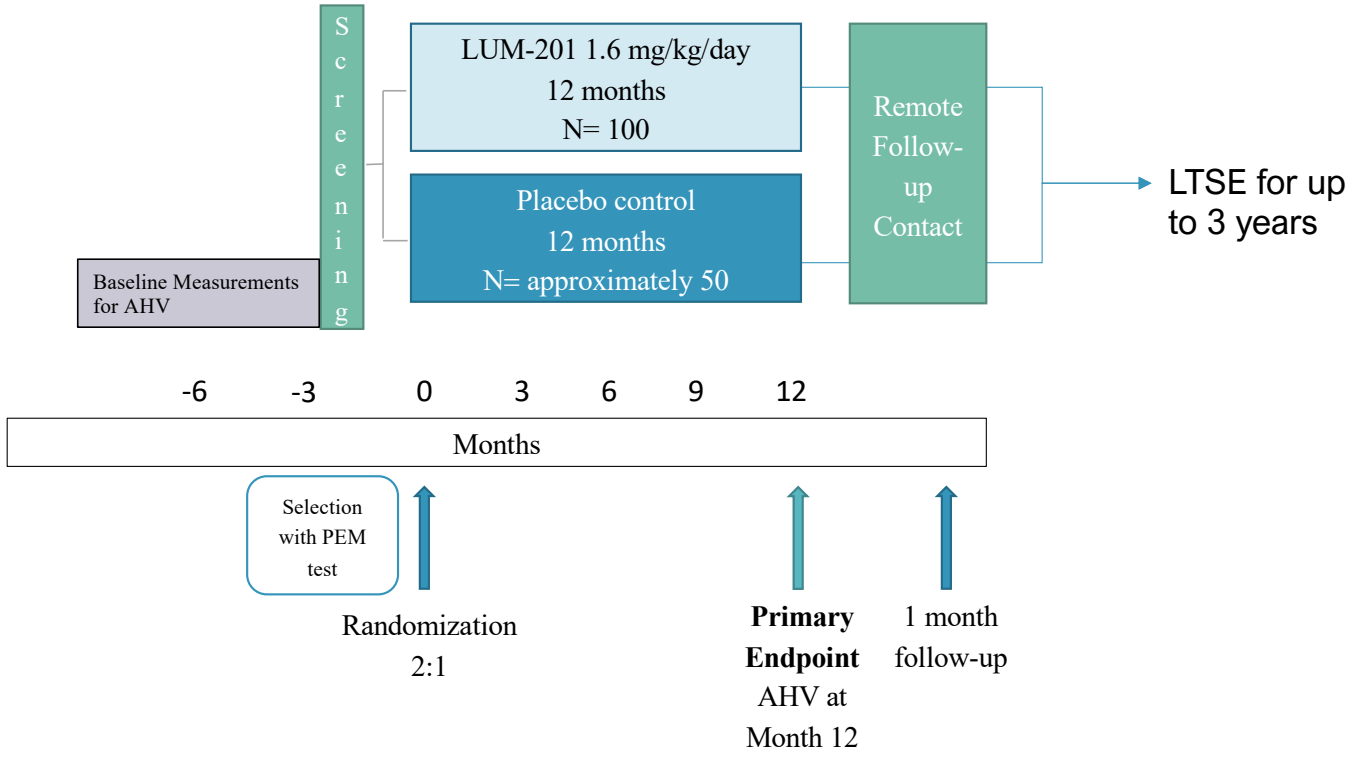
[1] Nass 2008 Ann Intern Med
[2] Performed by Lumos licensor, Ammonett Pharma

Placebo-Controlled Phase 3 Trial Design

12-month, 2:1 randomization, double-blinded trial of LUM-201 vs placebo with AHV evaluated at 12 months on treatment or placebo.

Placebo-Controlled Phase 3 Trial

- PEM+ PGHD naïve to treatment subjects
- N ~150 total
- 2:1 randomization
- Global trial
- 110 sites
- AHV primary endpoint at 12 months
- Trial initiation anticipated by end of 2025



Primary Endpoint:

- Demonstrate superiority of growth on LUM-201 at 12 months vs Placebo at 12 months

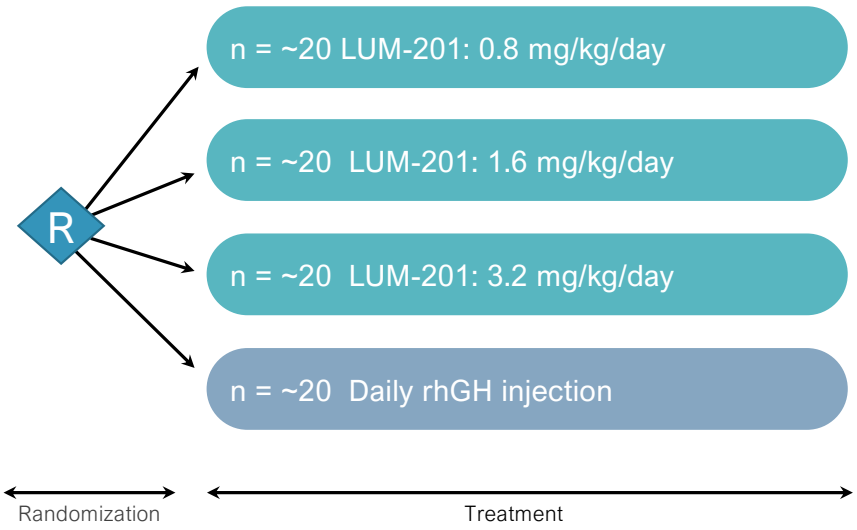
LTSE = Long-term Safety Extension
AHV = Annualized Height Velocity

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:

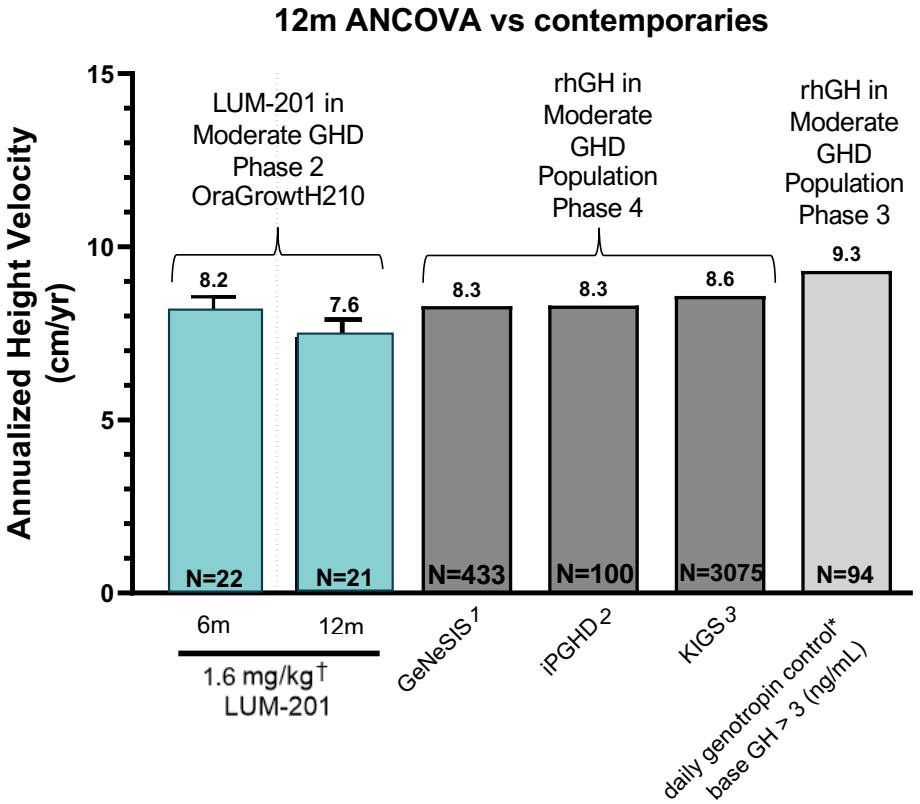
- Prospectively confirm utility of PEM strategy
- Evaluate reproducibility of PEM classification
- Annualized Height Velocity (AHV)

Goals:

- Determine optimal dose for Phase 3

Study not powered to show statistical non-inferiority

OraGrowtH210: LUM-201 Growth Comparable to Multiple 12-Month Historical Datasets



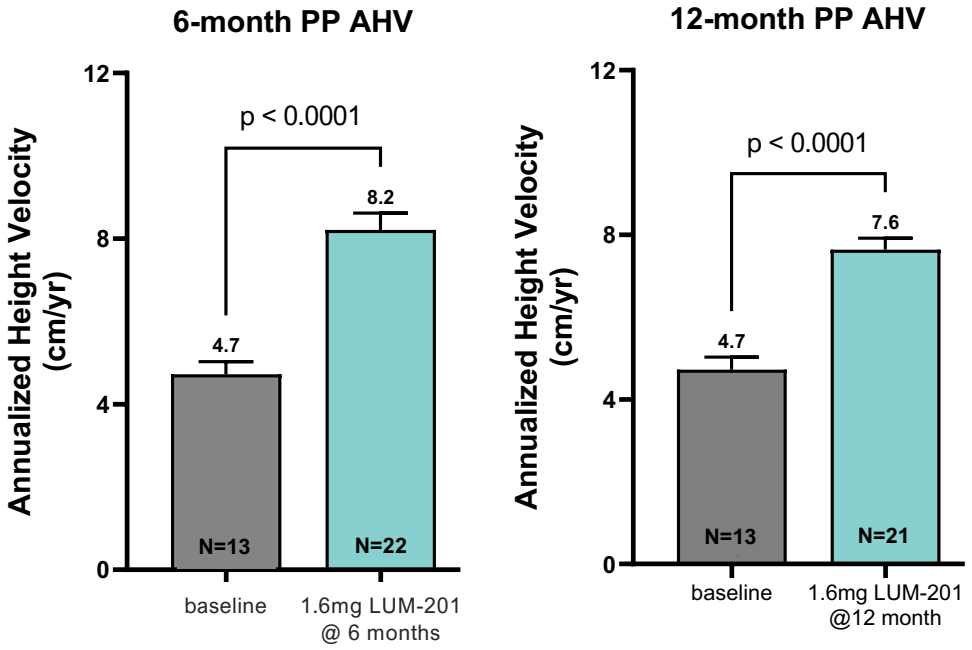
Highlights

- AHVs range from 8.3-9.3 cm/yr in historical datasets of moderate PGHD patients treated with daily rhGH
- LUM-201 AHVs of 8.2 and 7.6 cm/yr at 6 and 12 months, respectively, were in line with these historical rhGH growth rates in similar moderate patient populations

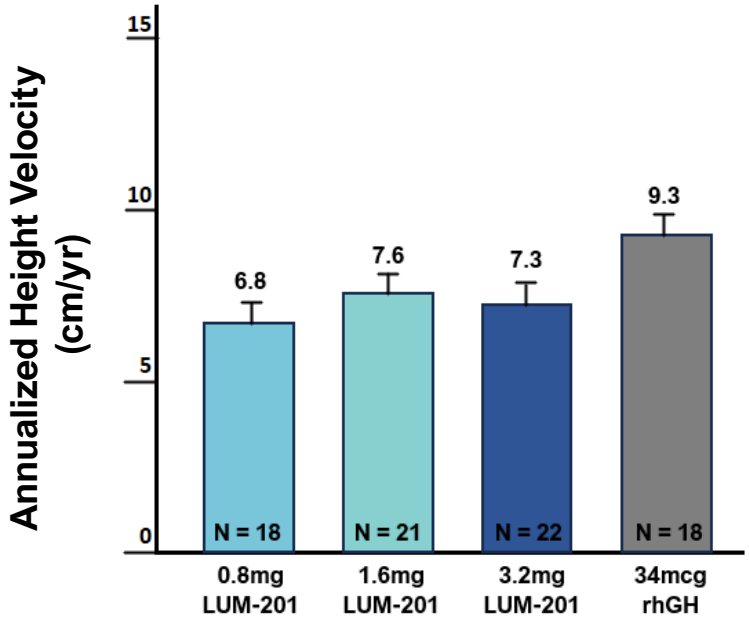
†ANCOVA values represent an analysis of covariates incorporating multiple baseline demographic terms. LUM-201 at 6m PP and 12m PP. Twelve-month LUM-201 AHV updated to include preliminary analysis of full 12-month dataset.
Bars represent Least Squares Mean (LSM); Error bars represent the Standard Error 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.

Full OraGrowtH210 Data at 12 Months Demonstrate Significant Increase in Growth from Baseline, Durable Effect to 1 year, and Confirm Optimal LUM-201 Dose of 1.6 mg/kg/day

AHV at 6 & 12 Months on LUM-201 (1.6 mg/kg/day)



AHV at 12 Months on Treatment (All cohorts)

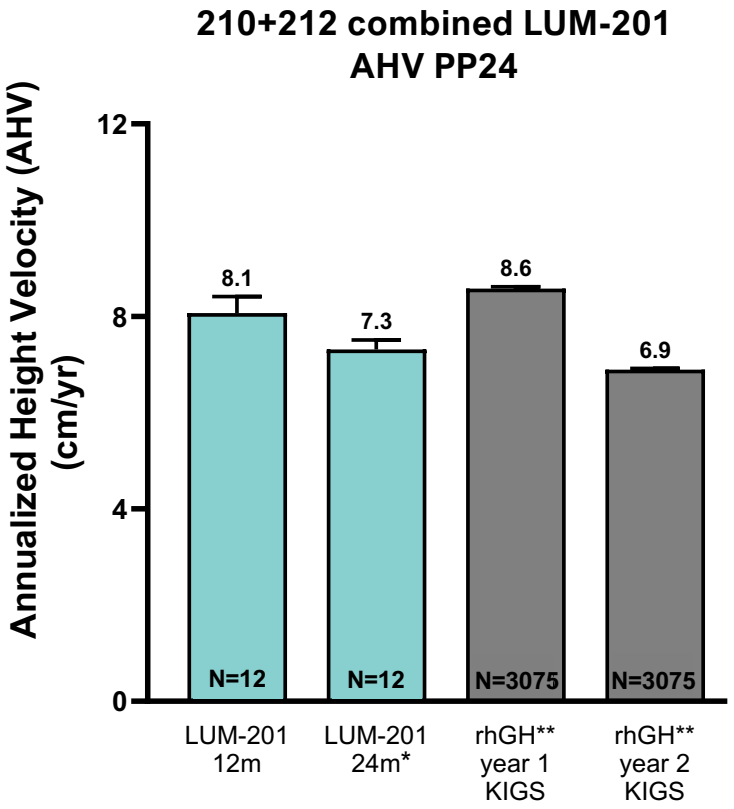


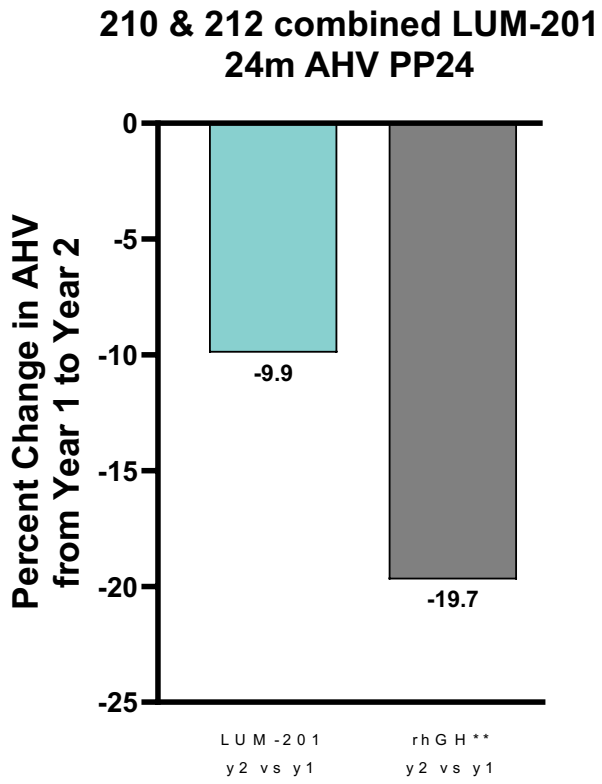
Significant increase in growth on 1.6 mg/kg/day LUM-201 vs baseline suggests this optimal LUM-201 dose is likely to demonstrate superior growth to placebo in Phase 3 trial

Error bars represent Standard Error Measurement.

LUM-201 Data Suggests Sustained Durability of Response vs SOC rhGH

OraGrowtH210 & OraGrowtH212 Combined (1.6 and 3.2 mg/kg LUM-201)





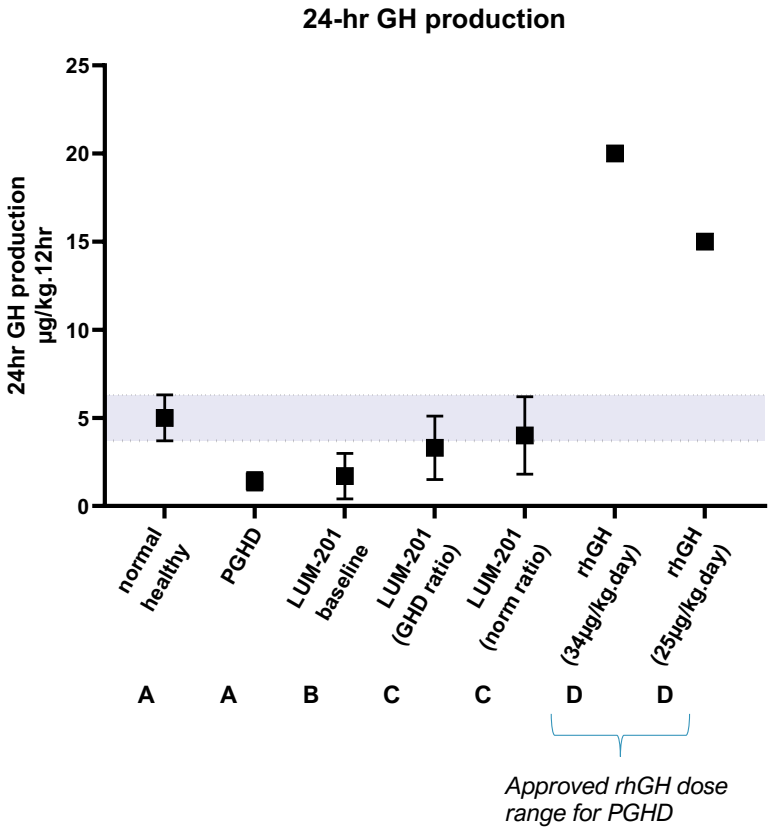
Highlights

- Preliminary data demonstrated 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

AHV values from the OraGrowtH studies are based on ANCOVA model (details provided on previous slides)
* 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 – Pfizer KIGS database rhGH treated cohort of moderate prepubertal 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.

By Increasing Endogenous 24-hour Pulsatile GH Secretion, LUM-201 Achieved Similar Growth to Exogenous Injectable rhGH, with Only ~20% of GH Concentration Levels

- LUM-201 increased GH to levels similar to a normal growing child
- LUM-201 induced the release of ~20% of the GH from a 34 mcg/kg/day rhGH daily injection, equating to ~26% of GH compared to a 25 mcg/kg/day rhGH dose
- Restoring pulsatility and 24-hr PD effect makes LUM-201 growth more GH efficient as it still captures majority of the growth on rhGH



Data Sources/Calculations:
A – Zadik et al Horm Res 1992, 24 hour concentrations calculated based on 12 hour measurement
B – Combined 1.6 and 3.2 mg/kg/day cohorts in '210 and '212 studies
C – 24-hour calculation from 12-hour data using both GHD factor and normal healthy factor
D – Adapted from data in Albertsson-Wikland et al JCEM 1994; 24-hour exposures listed reflect absorbance/bioavailability of ~60% of the administered dose

Commercial Appeal of Oral LUM-201

Potential Advantages of Oral LUM-201 Over Current Injectable rhGH

- Oral therapy preferred over injections for pediatric GHD and should expand the market[1,2]
- LUM-201 growth rates more stable vs rhGH over time[3,4,5]
  - Daily rhGH growth rate declines ~20% from year 1 to year 2 in moderate PGHD population[4,5]
  - Year 1 to year 2 growth decline in LUM-201 treated subjects was 10% in similar population[4,5]
- Restores natural pulsatile GH release without IGF-1 excursions[3,4]
- Normalizes growth rates at ~20% of GH exposure of injectable rhGH[4,5]
- Cost of goods less than injectable rhGH

Additional Indications for Oral LUM-201

- PWS & ISS: LUM-201 has potential to treat up to 11 indications currently treated with injectable rhGH
- NAFLD: LUM-201 has potential to reduce liver fat similar to historical data with injectable GH
- Obesity: LUM-201 + GLP1 combo has potential to improve muscle mass retention during weight loss

[1] Initial Primary Research of PGHD Market conducted for Lumos by Triangle Insights showed majority of physicians and caregivers preferred daily oral to weekly injections. Physicians N = 20. Caregivers N = 9. [2] Primary market research performed by Blue Matter Consulting, internal Lumos analysis based on KOL interviews and publications
[3] Dauber et.al. PES 2024. [4] Clayton, et.al. 2024. [5] Clayton GRS 2024.

Why LUM-201 will Win in the Marketplace

LUM-201 Has the Potential to Meet or Beat the Most Important Product Attributes vs. rhGH

Compliance

- Route of Administration is, by far, the most important product attribute[1]
  - Current compliance for daily GH injections ~ 50% - 60%[2]
  - 3 or more missed doses per week provides negligible growth benefit[3]
- Overwhelming preference for daily oral over weekly injectable[1]

Achieve Target Height

- 2-year LUM-201 data support more durable growth rates than rhGH through physiologically controlled stimulation of GH axis
- By time of NDA filing, will have 4 – 5 years of data on many subjects from LTSE

Insurance Coverage

- Currently, physicians are captive to formulary position
- Distinct product category provides opportunity for top tier formulary position for oral LUM-201
- Lowest projected COGS among all competitors

[1]Primary interviews of US Pediatric Endocrinologists and Caregivers, Triangle Insights
[2]Kaplowitz, et al, "Economic Burden of Growth Hormone Deficiency in a US Pediatric Population, JMCP, August 2021
[3]Cutfield 2011 PLOS ONE

LUM-201 Potential in Obesity and Cardiometabolic Indications

LUM-201 Potential in Obesity and Cardiometabolic Indications
GLP1-Ra/LUM-201 Combination to Improve Quality of Weight Loss

Obesity is a growth hormone (GH) deficient state

- GH secretion is blunted in obesity
- Growth hormone deficient adults have similar metabolic and body composition consequences as normal obese subjects
- Increases in GH and/or IGF-1 inhibits myostatin, leading to increases in muscle mass[2]

Emerging unmet medical needs arising from incretin therapy in obesity

- Disproportionate loss of lean mass loss with negative clinical outcomes
- Post treatment rebound[1]
- Next generation oral therapies in development

Restoring normal physiology with a GH secretagogue in combination with a GLP-1 agonist should provide high quality of weight loss

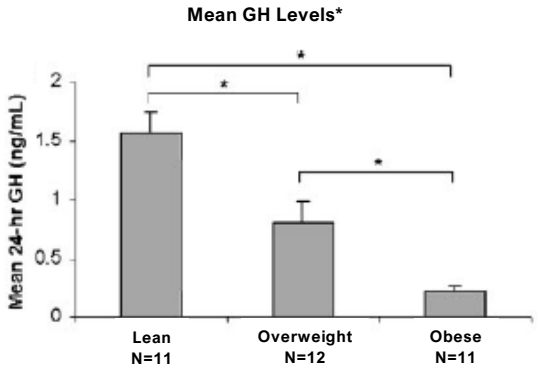
- Increase in pulsatile release of GH by augmenting natural physiology
- rhGH therapy repartitions visceral fat to the periphery and increases muscle mass
- Obtain weight loss benefits from GLP-1 with body composition and metabolic benefits of GH therapy in a physiologically controlled manner

[1]Wilding, JPH, et al. New England Journal of Medicine, 2021
[2]Liu et al, J Clin Endocrinol Metab 2003, 88(11):5490-5496

Endogenous GH Secretion is Blunted in Obesity[1]

Endogenous GH levels are reduced in a stepwise manner with disease severity . . .

. . . This finding has been consistent across all obese populations[2]



Starvation ← **Normal** → **Obesity**

- ↑ Growth Hormone
- Low Insulin
- Low IGF-1
- Increased Insulin Sensitivity

- Normal GH Secretion
- Normal Insulin secretion
- Normal IGF-1
- Normal Insulin Sensitivity

- ↓ Growth Hormone
- High Insulin
- Insulin Resistance

[1]Utz, et al, "Androgens May Mediate a Relative Preservation of IGF-I Levels in Overweight and Obese Women Despite Reduced Growth Hormone Secretion, J Clin Endocrinol Metab, October 2008
[2]Dichtel, et al, "Growth Hormone and Insulin-like Growth Factor 1 Regulation of Nonalcoholic Fatty Liver Disease", J Clini Endocrin Metab, 2022

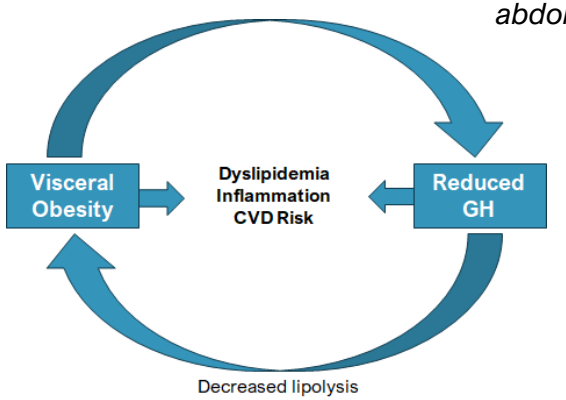
Growth Hormone Plays an Important Role in Metabolic Function and Cardiovascular Health

Beyond its effects on bone growth and musculoskeletal anabolism, GH plays an important role in the regulation of lipid metabolism, body fat distribution, inflammation and vascular health[1]

Untreated Adult Growth Hormone Deficiency (AGHD) and Obesity share many common features:

- Visceral fat accumulation in the abdomen
- Blunted GH secretion
- Insulin resistance
- Higher inflammatory markers
- Increased cardiovascular mortality
- Higher incidence of NAFLD[2]

Self-reinforcing cycle of increased visceral fat and reduced GH in states of abdominal obesity[1]



[1]Stanley, Grinspoon, "Effects of growth hormone–releasing hormone on visceral fat, metabolic, and cardiovascular indices in human studies", Growth Hormone & IGF Research 25 (2015) 59-65
[2]Nishizawa H, et. al. Eur J Endocrinol. 2012;167(1): 67-74

GH increases IGF-1 Production: Growth of Skeletal Muscle is Modulated by the Combined Actions of IGF-1 and Myostatin

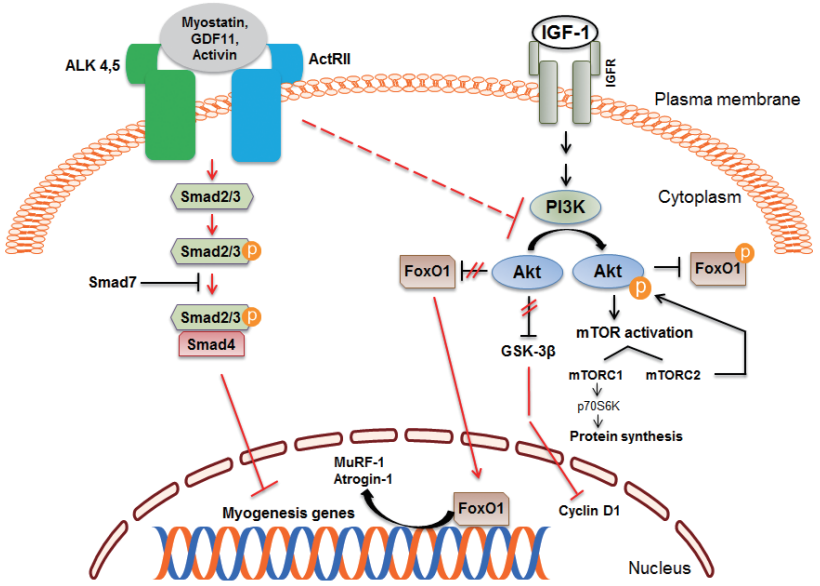
- IGF-1 and myostatin have contrasting roles in regulating skeletal muscle size and growth and act on opposing signaling pathways[1]

Myostatin Targeting:

- Myostatin's target, ActRII, is broadly expressed and activated by a variety of endogenous ligands
- Non-specific myostatin pathway inhibitors have exhibited safety concerns in the clinic and in animal models[2]

LUM-201:

- MOA increases endogenous GH pulsatility, leading to increased muscle mass[3]
  - Selective targeting of myostatin inhibition
  - Anabolic action of GH



[1]Ahima and Park Endocrinol Metab 2015, 30:235-245
[2]Suh et al, PNAS 2020, 117(9):4910-4920
[3]Nass 2008 Ann Intern Med

GH Treatment Effects on Adult Growth Hormone Deficiency (AGHD), Obesity, and MASH

AGHD[1]

- Increased lean mass
- Decreased overall fat mass, primarily visceral fat
- Improved dyslipidemia
- Reduced liver steatosis[2]
- Reduced systemic inflammation[3]

Obesity[4]

- Reduced visceral fat
- Increased lean mass[5]
- No change in Total Body Weight
- Modestly decreased triglycerides and cholesterol

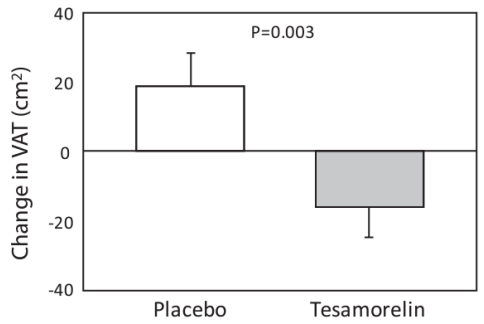
MASH[6]

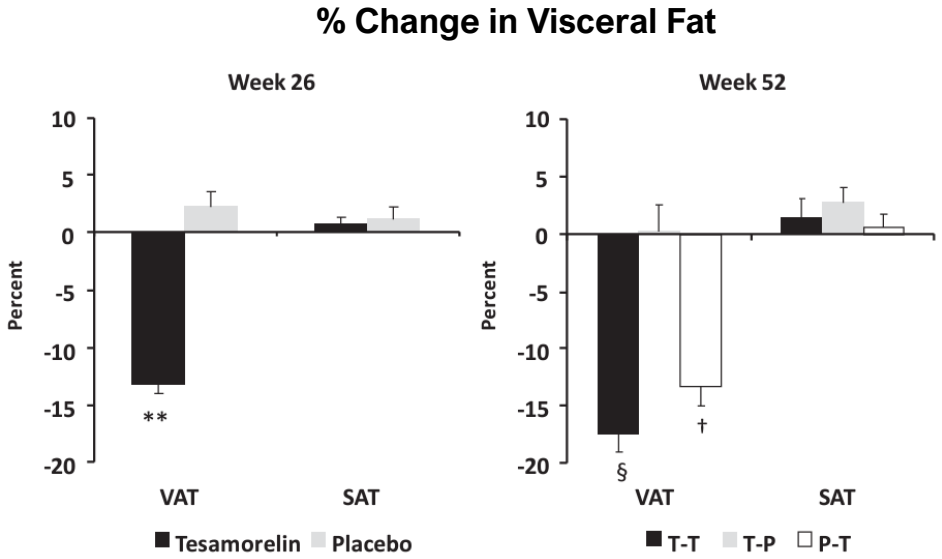
- Significantly reduced hepatic steatosis
- Improvement in ALT

[1]Stanley, Grinspoon, "Effects of growth hormone–releasing hormone on visceral fat, metabolic, and cardiovascular indices in human studies", Growth Hormone & IGF Research 25 (2015) 59-65
[2]Growth hormone reverses nonalcoholic steatohepatitis in a patient with adult growth hormone deficiency, Takahashi, et al, Gastro, 2007
[3]Bredella MA, et. al, Eur J Endocrinol. 2012;166(4):601-611
[4]Johannsson, et al, "Growth Hormone Treatment of Abdominally Obese Men Reduces Abdominal Fat Mass, Improves Glucose and Lipoprotein Metabolism, and Reduces Diastolic Blood Pressure", Journal of Clinical Endocrinology and Metabolism, 1997
[5]M.A. Bredella, A.V. Gerweck, E. Lin, M.G. Landa, M. Torriani, D.A. Schoenfeld, et al., Effects of GH on body composition and cardiovascular risk markers in young men with abdominal obesity, J. Clin. Endocrinol. Metab. 98 (9) (2013) 3864–3872.
[6]Ditchel, LE, et. al, J. Clin Endocrinol Metab. 2023, 108, e1542–e1550, MASH = Metabolic Dysfunction-Associated Steatohepatitis (formerly NASH, Non-alcoholic steatohepatitis)

Strong Evidence with an Injectable GHRH Analog[1]

- Tesamorelin (analog of GHRH) is an injectable peptide that stimulates GH Release
  - Different biological mechanism than LUM-201
  - Approved to treat HIV Lipodystrophy
- 52-week study in 60 abdominally obese subjects (Standard GH stim test ≤ 9 ug/L)
  - ✓ Significant decrease in visceral fat (-1.7 kg)
  - ✓ Significant increase in lean mass (+1.4 kg)
  - ✓ No change in BMI
  - ✓ Significant decrease in triglycerides (-37 mg/dL)
  - ✓ Carotid IMT decreased (-0.04 mm)
  - ✓ No change in glucose





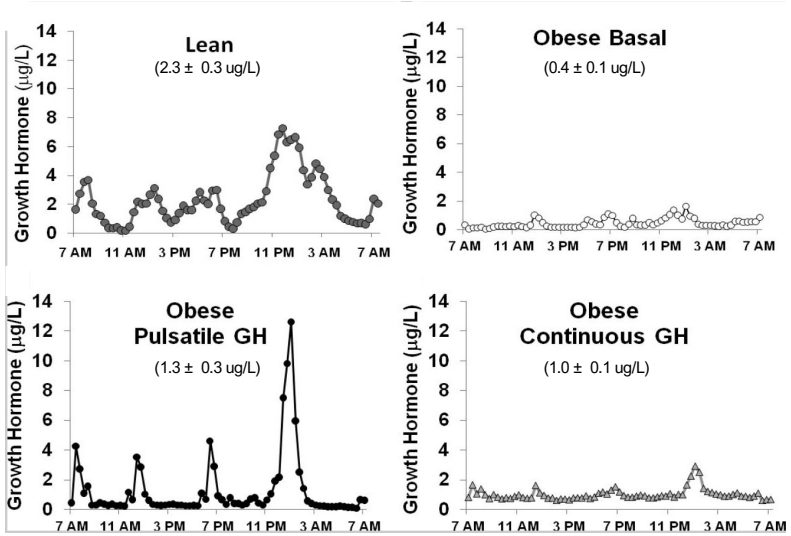
[1]Stanley, Grinspoon, "Effects of growth hormone–releasing hormone on visceral fat, metabolic, and cardiovascular indices in human studies", Growth Hormone & IGF Research 25 (2015) 59-65
VAT: Visceral Adipose Tissue SAT: Subcutaneous Adipose Tissue IMT: Intima-Media Thickness

Pulsatile Delivery of GH Almost Doubles the Rate of Lipolysis in Obese Subjects vs. Continuous Infusion of GH[1]

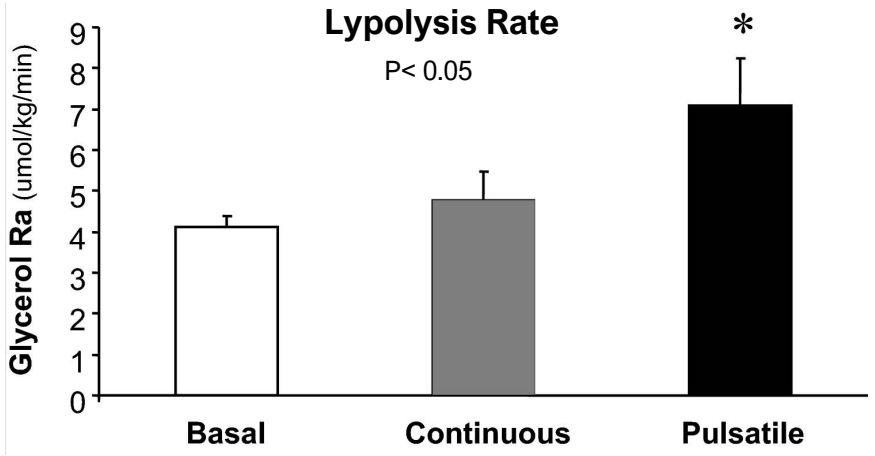
Study Objective: Mimic normal GH physiology to determine treatment effects in obese subjects

Study Design

- 9 Obese subjects were dosed rhGH 0.015 mg/kg/day for three days, switched as follows:
  - Continuous infusion
  - 4 pulses mimicking normal peak cycles



- **Results**:
  - Mean 24-GH plasma concentrations similar
  - IGF-1 concentrations in plasma higher in Continuous treatment arm
  - Glycerol Rate of Appearance in plasma (Ra), an index of whole-body lipolytic rate nearly doubled in GH pulsatile GH arm
  - Glucose levels similar in all groups



[1]Sowmya, et al, "The Pattern of Growth Hormone Delivery to Peripheral Tissues Determines Insulin-Like Growth Factor-1 and Lipolytic Responses in Obese Subjects", J Clin Endocrinology Metabolism, Aug 2009

Highlights from LUM-201 Adult Studies

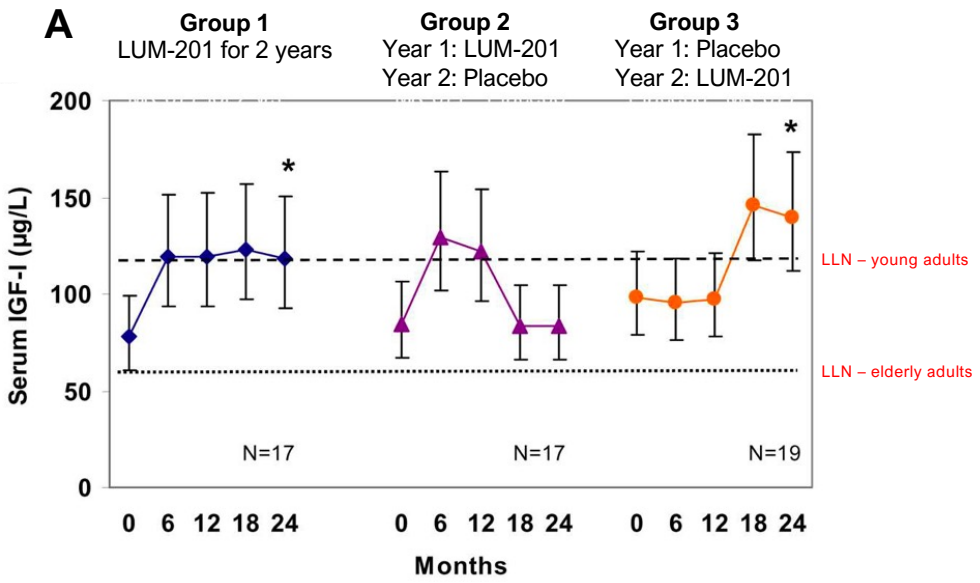
Functional Benefits and Consistent PD Effects Observed in Multiple Adult Disease Settings

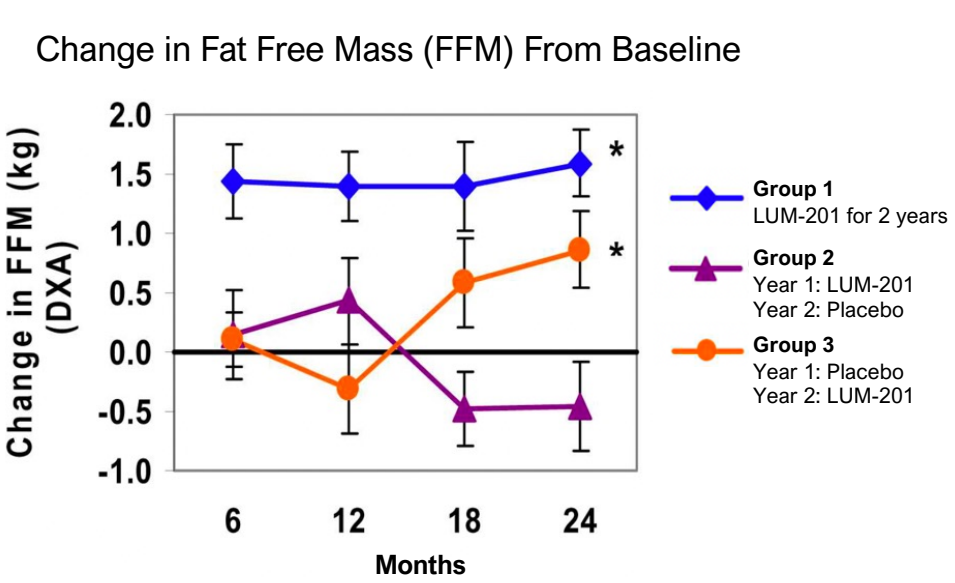
Setting	Treatment Duration[1]	Increase in Serum IGF-1	P-Value	N[1]	Key Findings
Healthy Elderly	12 months	50%	<0.001	43	LUM-201 restored and maintained GH and IGF-1 concentrations back to lower limit of normal for young adults and improved fat free mass[1]; Functional improvements in knee and shoulder strength tests vs placebo[2]
	24 months	54%	<0.001	17	
Obesity study	8 weeks	~36%	<0.001	12	Significant increase in fat free mass; longer studies encouraged[3]
Caloric restriction	7 of 14 days	~40%	<0.01	8	LUM-201 reverses diet-induced nitrogen wasting[4]
Postmenopausal osteoporosis	12 months†	~40%	<0.05	204	Increase in biomarkers of bone formation and resorption, increased bone mineral density (BMD) at the femoral neck; no net change in Total Body BMD[5]

[1]Nass et al Ann. Intern Med 2008
[2]Unpublished data
[3]Svensson et al J. Clin. Endocrinol. Metab. 1998
[4]Murphy et al J. Clin. Endocrinol. Metab. 1998
[5]Murphy et al J. Clin. Endocrin. Metab. 2001
† IGF-1 data at 12 months treatment, treatment to 18 months

LUM-201 PD and Clinical Effects Are Durable in Healthy Elderly[1]

Normalized IGF-1 levels and improved fat free mass from baseline





Healthy elderly adults treated with 25mg LUM-201 once daily for up to 24 months

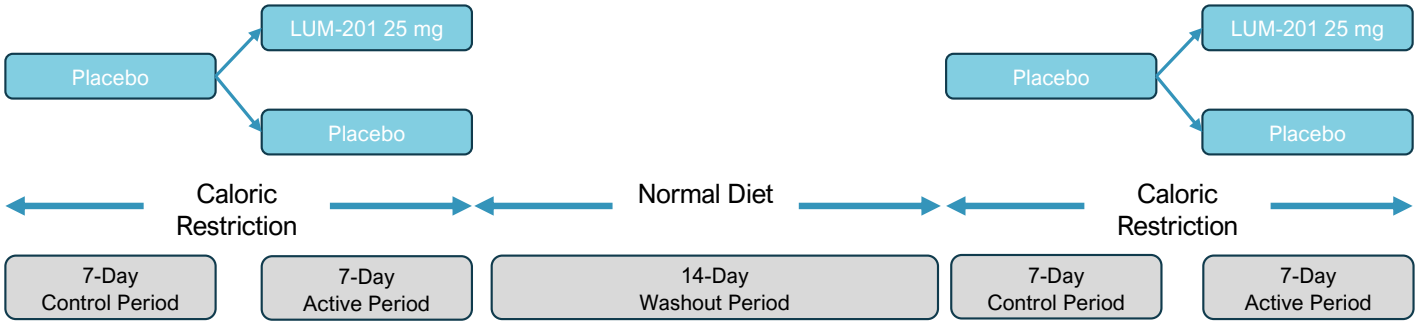
Treatment with LUM-201 restored IGF-1 concentrations to those of normal healthy young adults, increased fat free mass, and demonstrated a sustained effect for up to 24 months

[1]Nass 2008 Ann Intern Med (Supplemental Information) Barred data represent 95% Confidence Interval

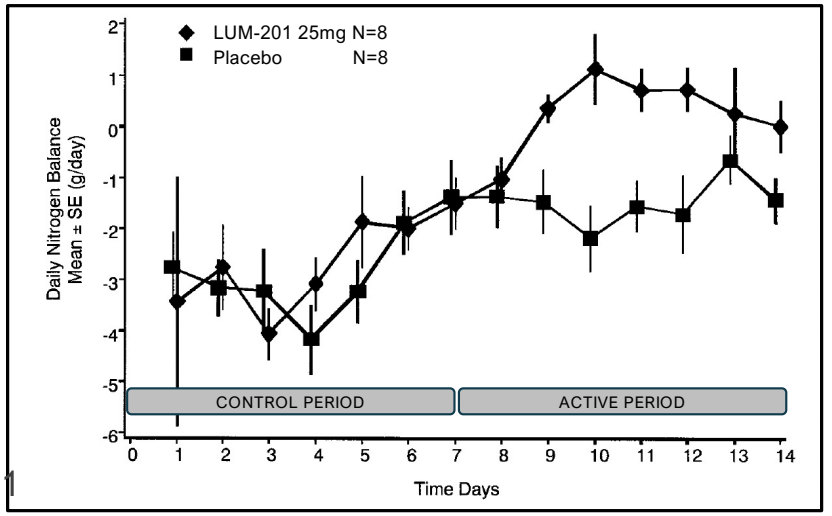
* Asterisk indicates significant change from baseline (Bonferroni-adjusted P-value: Panel A P<0.001; Panel B P=0.026) LLN – Lower Limit of Normal DXA – Dual X-ray Absorptiometry

Treatment With LUM-201 Increased Nitrogen Balance In Catabolic State[1]

Study Design: Double-blind, placebo-controlled, randomized, two period, crossover study in healthy young adult volunteers



Nitrogen balance AUC, g/day	LUM-201	Placebo
During Active Period	+2.69 +/- 5.0	-8.97 +/- 5.3



LUM-201 significantly[2] improved nitrogen balance AUC over the 7 days of treatment during the active period.

- Nitrogen balance is a measurement of anabolism (lean body mass)
- Serum GH and IGF1 levels also significantly[3] increased with LUM-201 treatment

1 Murphy et al J. Clin. Endocrinol. Metab. 1998 **2** P=0.001 **3** P<0.005 AUC: Area Under the Curve

LUM-201 Could Address Many of the Emerging Unmet Medical Needs Arising from Incretin Therapy in Obesity

Medical Need	LUM-201
Oral Therapy for Primary Care Market	• Solid oral dosage form provides 24-hour PD effect with once daily dosing, no fasting restrictions • Co-formulation opportunity with oral GLP-1
Reduced Lean Mass Loss, Particularly for Sarcopenic Patients	Increased lean mass in elderly healthy subjects through 24 months of therapy[1]
Improved GI Tolerance for Lower Discontinuation Rates	Combination with GLP-1Ra may provide dose sparing opportunity for intolerant patients with similar efficacy
Comorbidity Outcomes for Reimbursement	Growth hormone therapy in obese subjects improves CV markers[2]
Strong Safety Profile	>1,300 patients treated to date with no significant safety signals, including at doses higher than therapeutic dose[3]

[1] Nass 2008 Ann Intern Med
[2] M.A. Bredella, A.V. Gerweck, E. Lin, M.G. Landa, M. Torriani, D.A. Schoenfeld, et al., Effects of GH on body composition and cardiovascular risk markers in young men with abdominal obesity, J. Clin. Endocrinol. Metab. 98 (9) (2013) 3864–3872
[3] Combined clinical trial experience from Merck and Lumos

LUM-201 US Patent Estate

US Patent #	Title	Scope	Status	Exclusivity Through
9,763,919	**Detecting and Treating Growth Hormone Deficiency**	Screening, diagnosing, and treating any PEM+ pediatric GH disorder	Granted	Q3 2036
18/057,941	**Compactable Oral Formulations of Ibutamoren**	Commercial formulation of LUM-201	Granted	Q4 2042
18/231,977	**Compositions for the Treatment of NAFLD and NASH**	Methods of treating NAFLD and NASH	Pending	TBD
Provisional	**Pharmaceutical Formulations for Maintaining Lean Muscle Mass During Weight Loss Treatment**	Methods for treatment for LUM-201 combined with GLP-1Ra molecules and oral co-formulations	Filed	TBD

Late-Stage Opportunity to Disrupt $4.7B GH Market[1] with Potential Further Utility in $100B+ Cardiometabolic Market

Attractive Market Opportunity	• $4.7B Global growth hormone (GH) market projected to grow to ~$8B by 2031
	  • Primed for conversion to oral therapy[2]
	• Potential for improving quality of weight loss in combination with incretin mimetics
	  • Monotherapy data in humans demonstrates marked and durable improvements in body composition[3]

Novel Asset with Unique MOA	• Unlike current therapies, oral LUM-201's novel MOA takes advantage of natural physiology • Orphan Drug Designation in US/EU and IP protection through 2042 in the US for novel formulation
Clear Proof of Concept in PGHD	• PEM strategy de-risks patient selection, identifying likely LUM-201 responders[4] • Phase 2 trials met all primary and secondary endpoints and significantly increased AHV vs baseline • Consistent PK/PD and attractive investigational safety profile to date in > 1,300 subjects studied
Regulatory Path Clarity	• Study may proceed letter received early 2025 for a Global Phase 3 placebo-controlled trial • Initiation of Global Phase 3 trial anticipated by end of 2025 for 150 patients

Potential for 1st oral therapeutic to disrupt injectable GHD market with additional value inflection point from Phase 2 obesity study

[1]Based on gross sales of rhGH worldwide; [2]"GHD Market by End User", SNS Insider and internal market research conducted by Triangle Insights
[3]Nass 2008 Ann Intern Med (Supplemental Information); [4]PEM (Predictive Enrichment Marker) investigational strategy consists of screening for PEM-positive PGHD patients = Baseline IGF-1 > 30 ng/ml & Peak stimulation GH ≥ 5 ng/ml from single oral dose of LUM-201