Supplemental Materials

November 18, 2024

lumos PHARMA

Transforming Lives with Rare Focus

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 our finalization of design details for a Phase 3 clinical trial with the FDA in the fourth quarter of 2024 and our positioning to initiate this trial in the second quarter of 2025, that we believe new analyses provide additional support for our planned approach to a placebo-controlled Phase 3 trial of LUM-201 in moderate PGHD, that we believe the trial design would improve the likelihood of success when compared to a non-inferiority study, that cash on hand is expected to support operations into Q1 2025, the potential for LUM-201 to be the first oral therapeutic for PGHD, 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 timing and ability of Lumos Pharma to structure our Phase 3 trial in an effective and timely manner, the ability to obtain FDA approval of, initiate and advance a pivotal Phase 3 trial, as well as advance our clinical and corporate strategy in general, our ability to obtain the capital needed to fund a Phase 3 trial and other business operations, our ability to project, forecast, and manage future cash utilization and reserves needed for contingent future liabilities and business operations, the ability to successfully develop our product candidate 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 Annual Report on Form 10-K for the year ended December 31, 2023 and Quarterly Report on Form 10-Q for the periods ended March 31, June 30, and September 30, 2024, as well as other subsequent reports filed with the SEC. 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.

11.18.2024

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

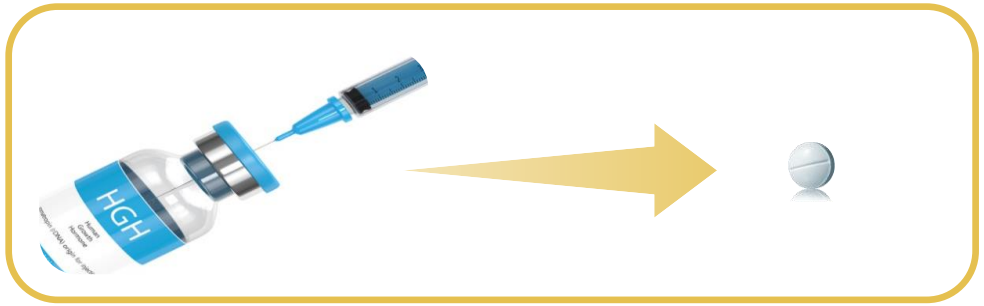
Injectable therapies are only options

- 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

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

lumos PHARMA

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 registrational study in PEM+ PGHD subjects planned for Q4 2024

**Predictive Enrichment Marker*

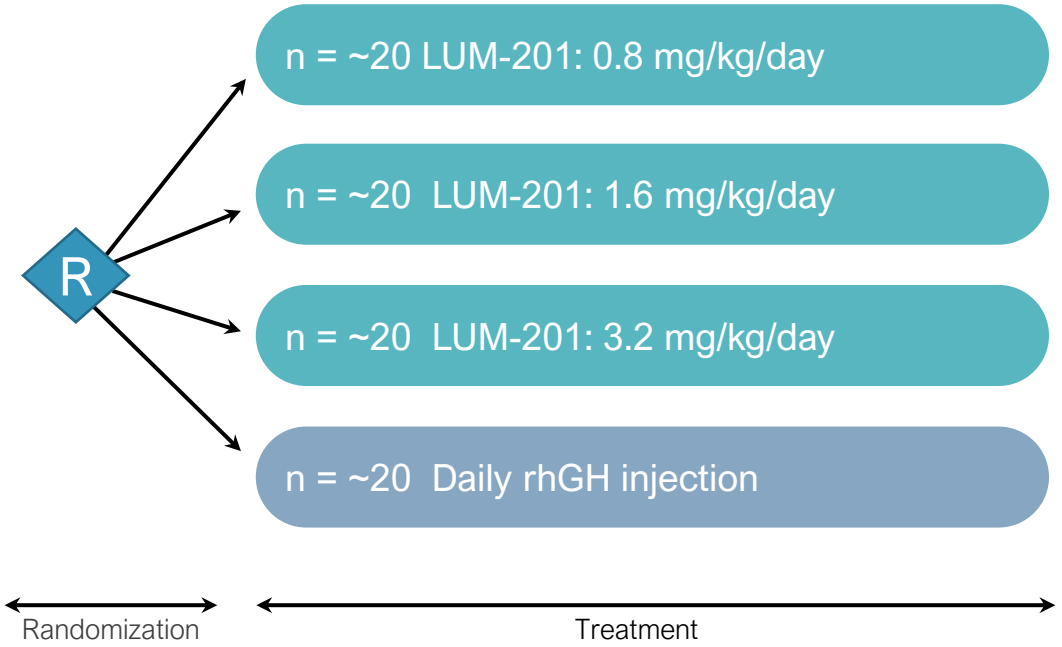
[1] Nass 2008 Ann Intern Med
[2] Performed by Lumos licensor, Ammonett Pharma

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:

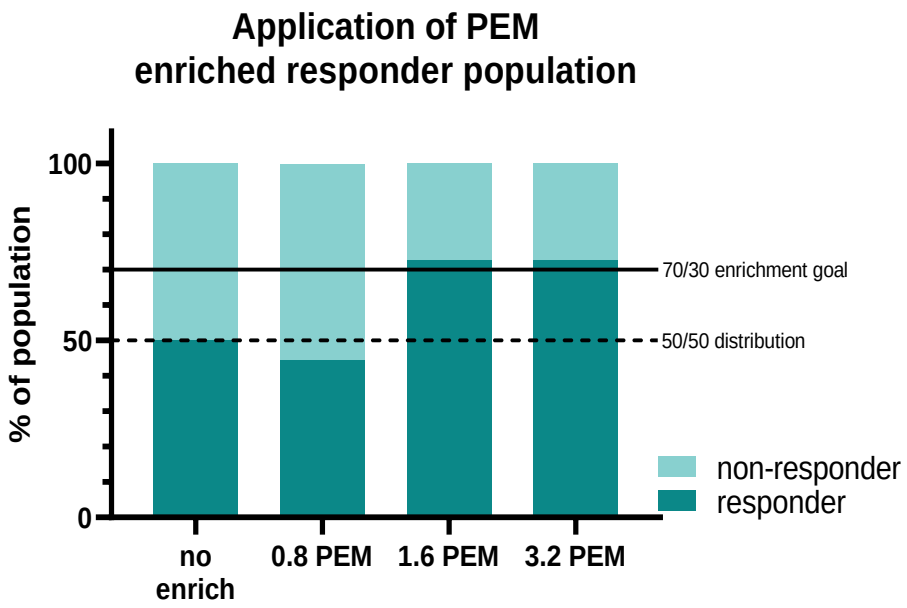
- Prospectively confirm utility of PEM strategy
- Evaluate reproducibility of PEM classification
- Annualized Height Velocity (AHV)

Goals:

- Determine optimal dose for Phase 3

Study not powered to show statistical non-inferiority

OraGrowtH210 Met Primary & Secondary Statistical Objectives: PEM Test Enriches the Responder Population & 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%)

Highlights

- PEM test ensures patients enrolled in the study are capable of secreting GH in response to a single-dose of LUM-201
- PEM test is highly reproducible
- 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

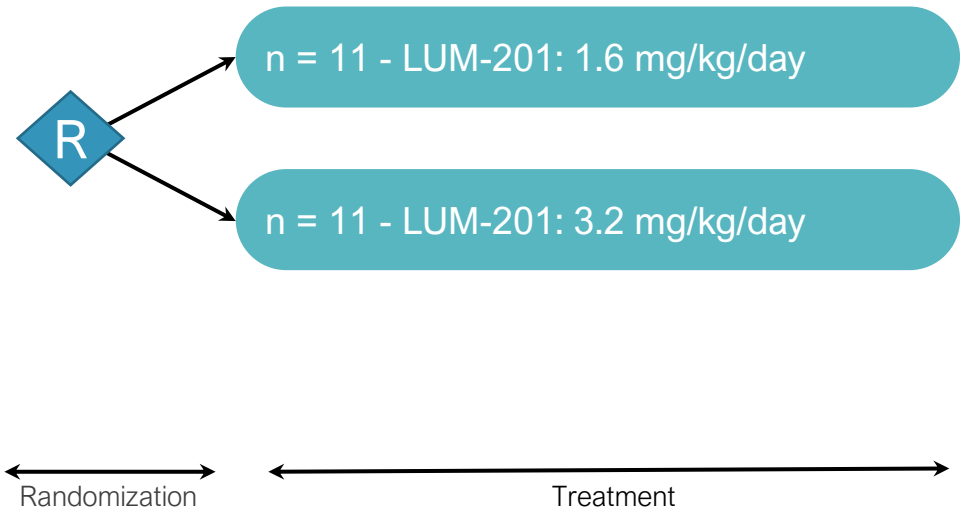
PEM positive classification was 100% reproducible and exceeded pre-specified statistical objective

OraGrowtH212 Trial: PK/PD Trial in Naïve Moderate PGHD

OraGrowtH212 TRIAL

- 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

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

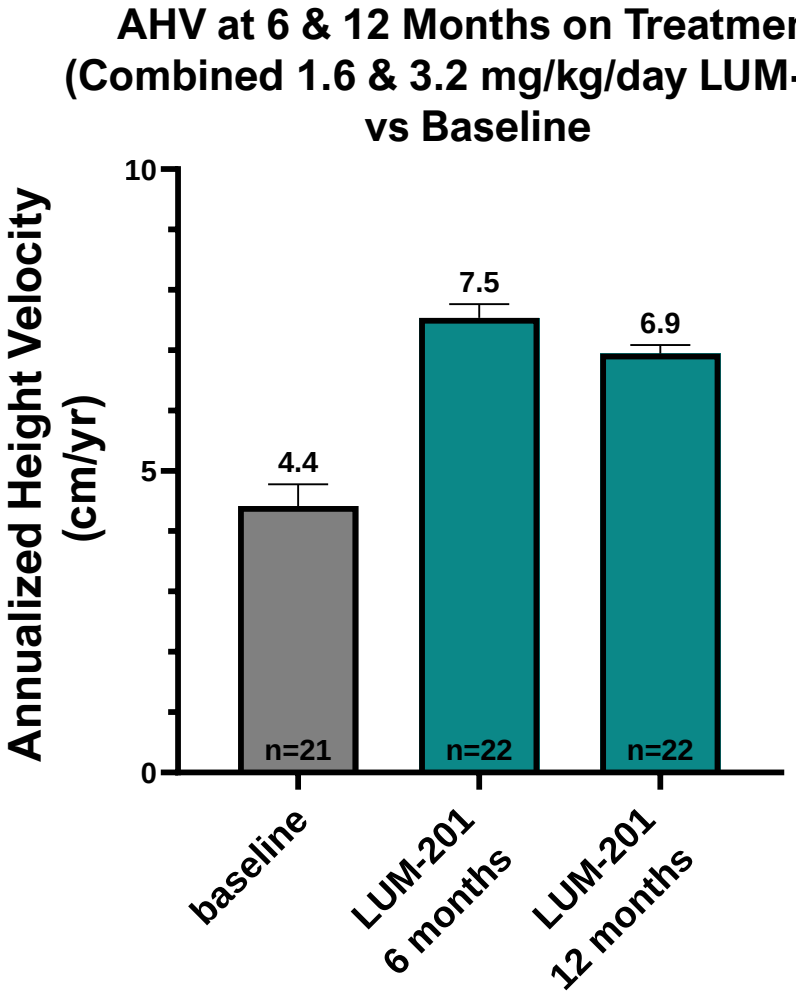
Goals:

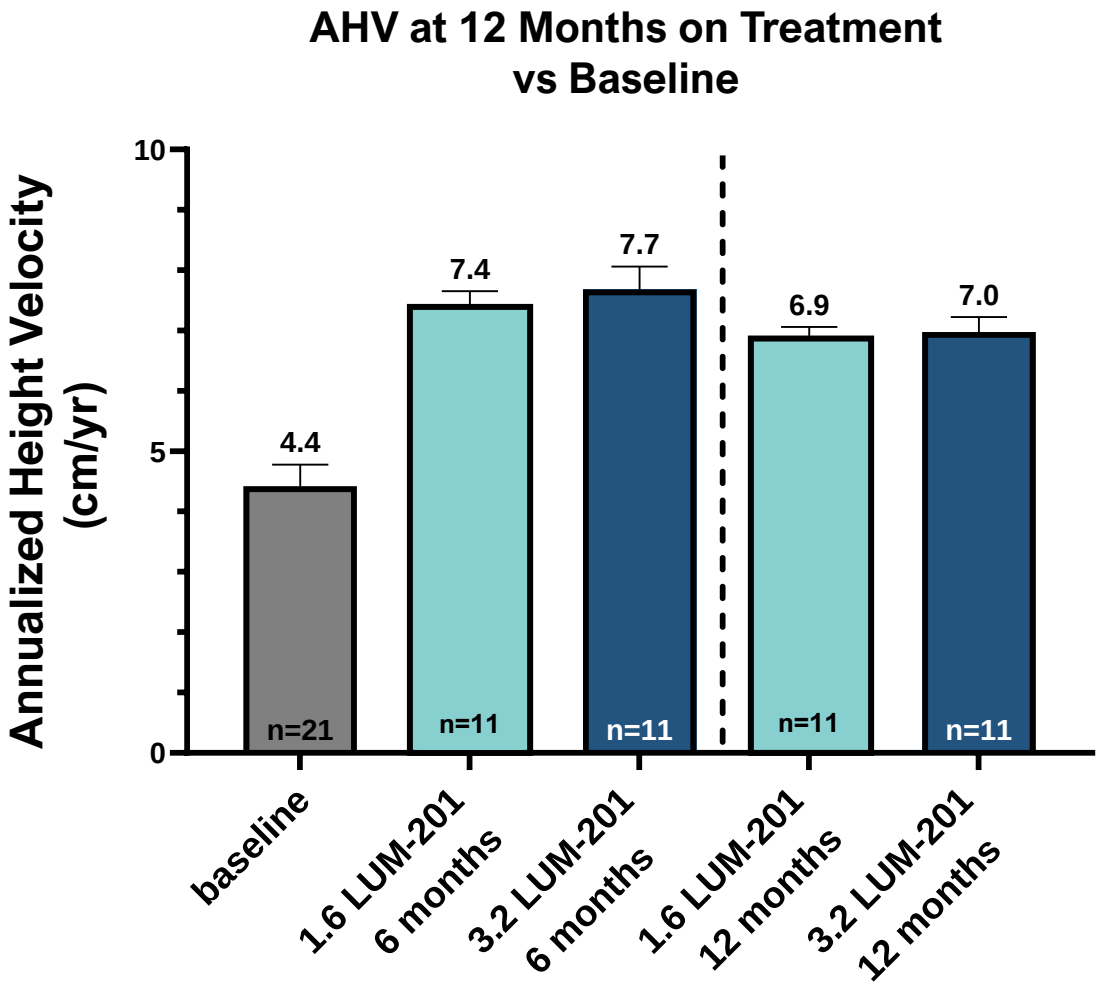
- Confirm prior PK/PD data in adults & subset of Merck 020 trial
- Support future regulatory filings & commercialization

OraGrowtH212 was a single-site trial with a more homogenous patient population than larger international OraGrowtH210 Trial

PK/PD = Pharmacokinetic / Pharmacodynamic

Full OraGrowtH212 Data at 12 Months Demonstrate Meaningful Growth from Baseline and Durable Effect to 1 year on Treatment



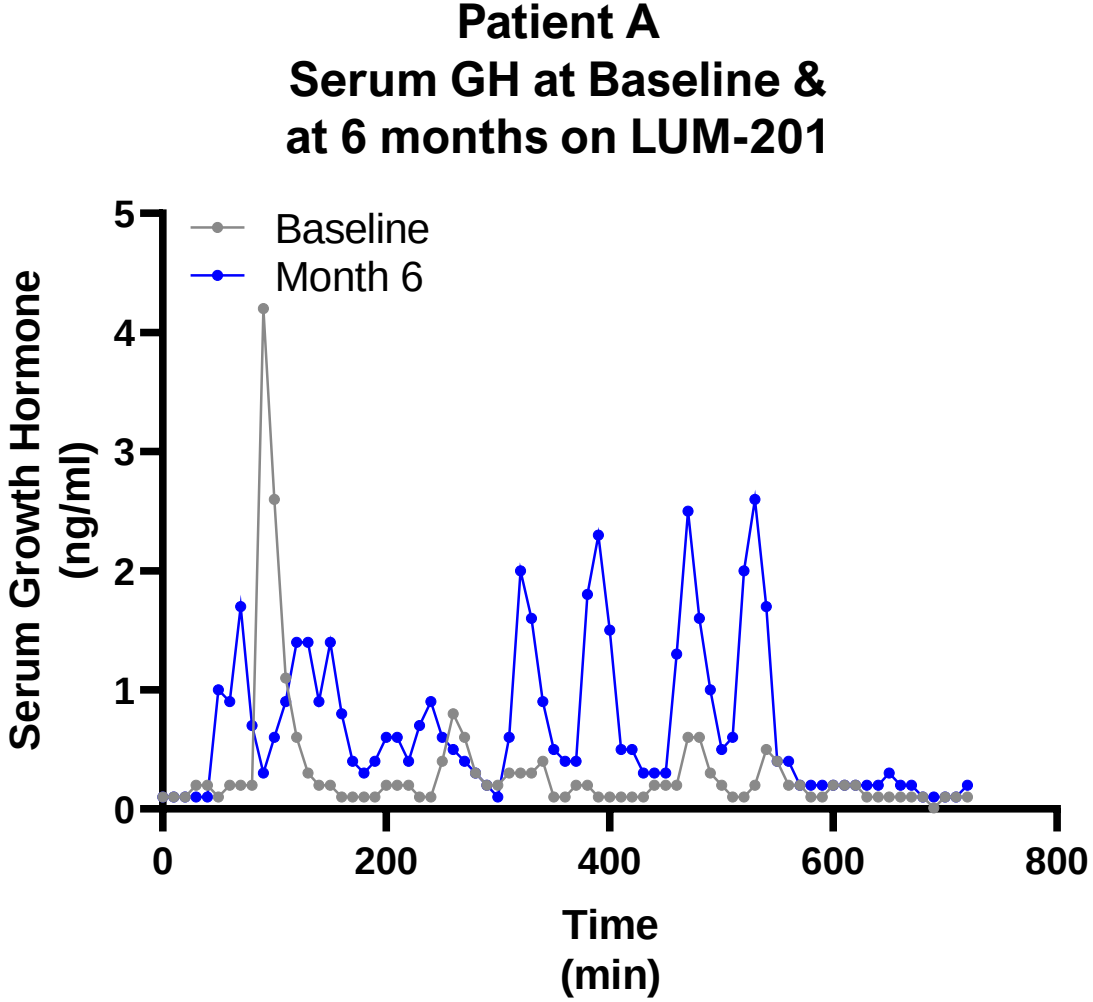


Error bars represent Standard Error Measurement.

OraGrowtH212: LUM-201 Augments GH Pulses, Increases IGF-1 and Growth Rate

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

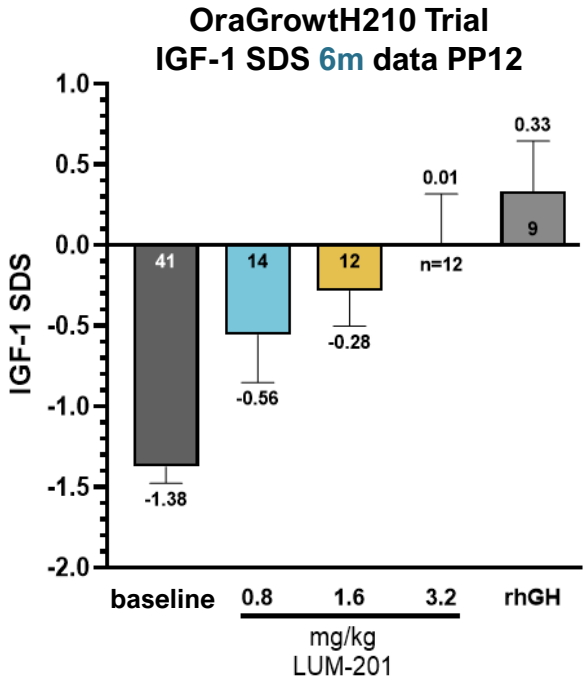
*Percent change from baseline calculated as: (6mo value – baseline value) / (baseline value)

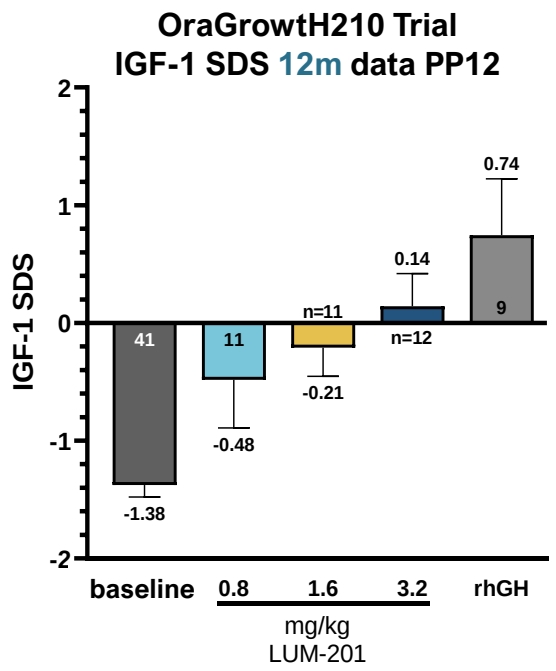
AHV = Annualized Height Velocity

LUM-201 Normalizes IGF-1 SDS with Durable Effect out to 12 months

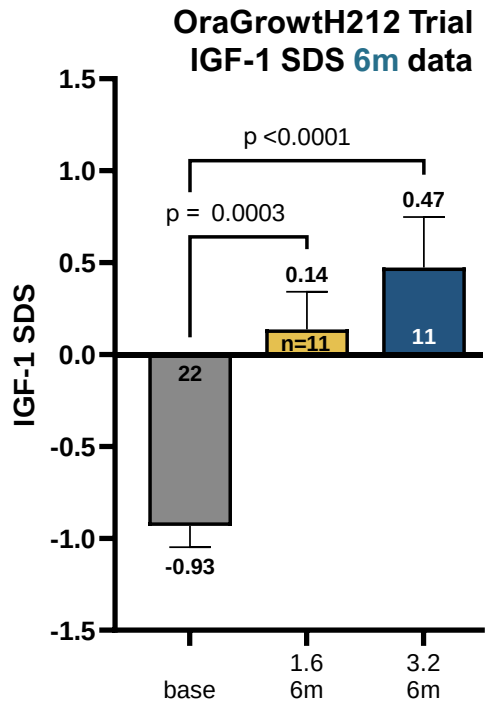
OraGrowthH210 and OraGrowthH212 Topline Phase 2 Data

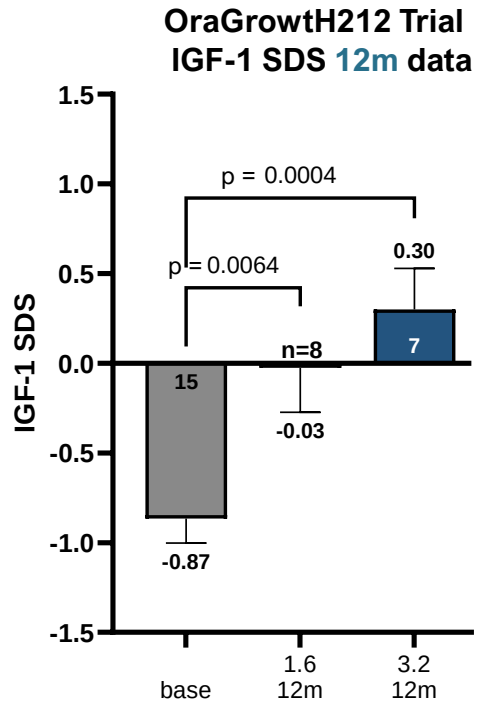
OraGrowthH210 Trial





OraGrowthH212 Trial





- **LUM-201 normalizes IGF-1 within 6 months with durable effect to 12 months**
- **No subjects > 2 Standard Deviation Score (SDS) between 0 and 12 months**

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

Favorable Investigational Safety Profile from Topline OraGrowtH Trial Data

Favorable Investigational Safety Profile

- 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)

Two subjects had an SAE between PEM dose and randomized dose: 1 subject in LUM-201 0.8 mg/kg cohort and 1 subject in rhGH cohort

- Both SAEs likely due to effect of fasting prior to administration of PEM dose

FDA End-of-Phase 2 Meeting Update

- Positive, constructive meeting with ~30 FDA staff in attendance
- Acknowledged that we are not a GH product – but a novel growth promotor
- Tone was collaborative and focused on approaches for a Phase 3 pivotal trial
- FDA suggested that a placebo-controlled Phase 3 trial design is an appropriate option for a GH secretagogue like LUM-201, subject to FDA review

Phase 3 Trial Design Options Discussed with the FDA at EOP2 Meeting

Lumos Submitted Non-Inferiority Study

- LUM-201 vs rhGH control
- 12-month duration
- Non-inferiority margin
  - The lower bound of non-inferiority margin must be above the clinically meaningful AHV growth rate

Placebo-Controlled Study

- LUM-201 vs placebo
- 12-month duration
  - Must show clinically meaningful growth rate above the placebo growth rate
  - Potential benefit for placebo arm is an important design consideration
- This presumably arose from their recognition of our unique mechanism of action compared to GH

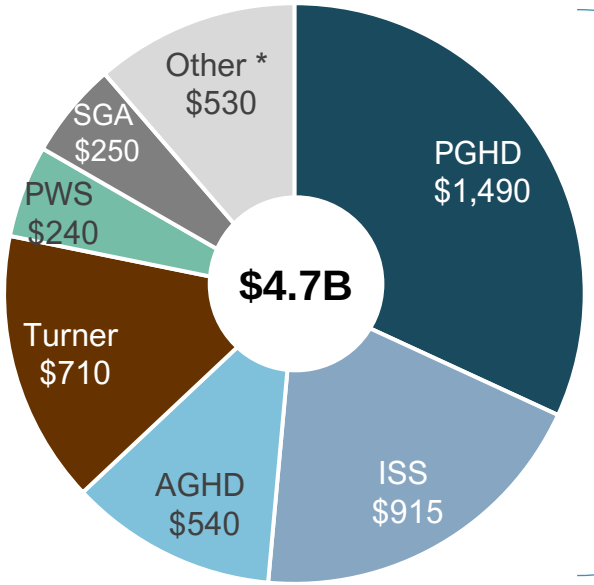
FDA suggested that a placebo-controlled Phase 3 trial is an appropriate option for a GH secretagogue such as LUM-201

EOP2 = End of Phase 2 Meeting with the FDA

AHV = Annualized Height Velocity

Market Opportunity for Oral LUM-201

~$4.7B 2022 Market by Indication
(Gross, including China, US$ MM)



GH Market Growth

Daily rhGH Injections
- Low compliance
- Early discontinuation
- Low referral for moderate PGHD

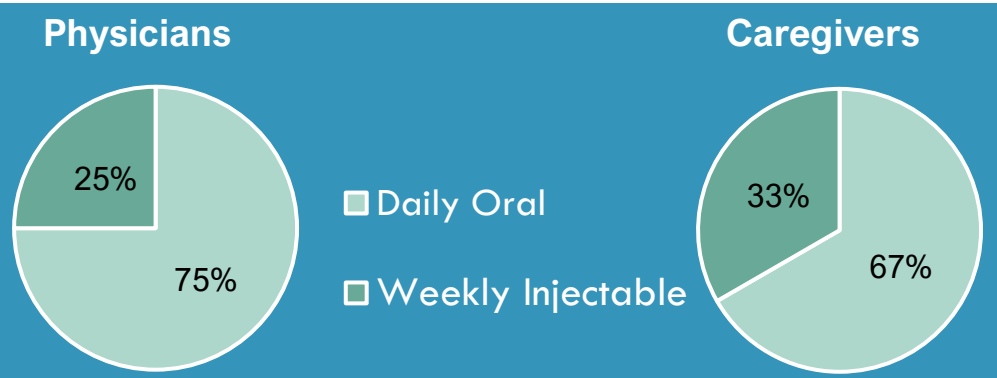
Expanded Market Opportunity
Long-Acting GH + Oral Therapy

Future GHD Therapeutic Market Expansion[2]

Initial Market expansion ~20-30%
Organic growth ~7.5%

Interview Question:

If a daily oral secretagogue and a weekly rhGH injectable product were both FDA-approved and available for use, which product would you prefer?[1]

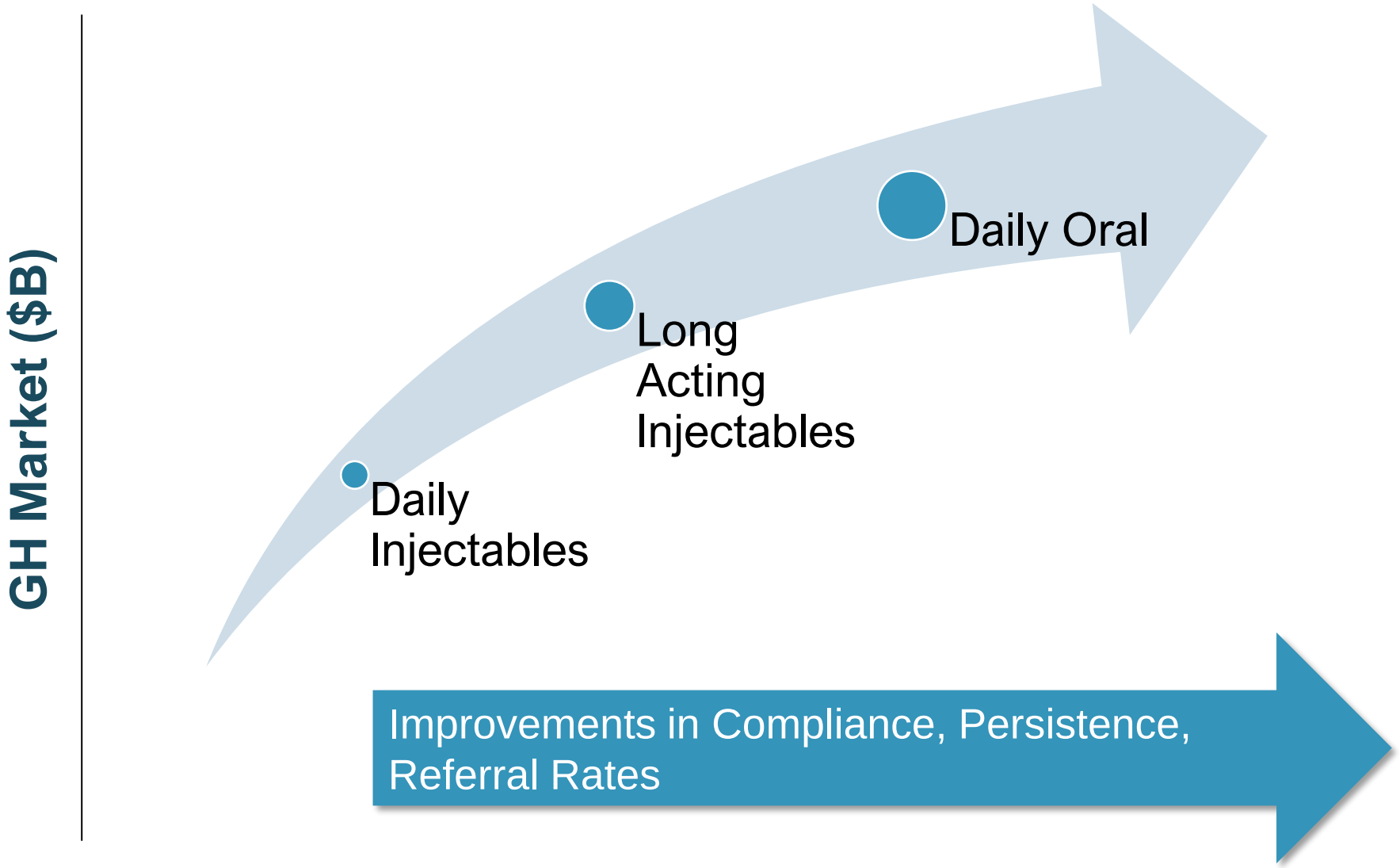


[1] Initial Primary Research of PGHD Market conducted for Lumos by Triangle Insights. Physicians N = 20. Caregivers N = 9.

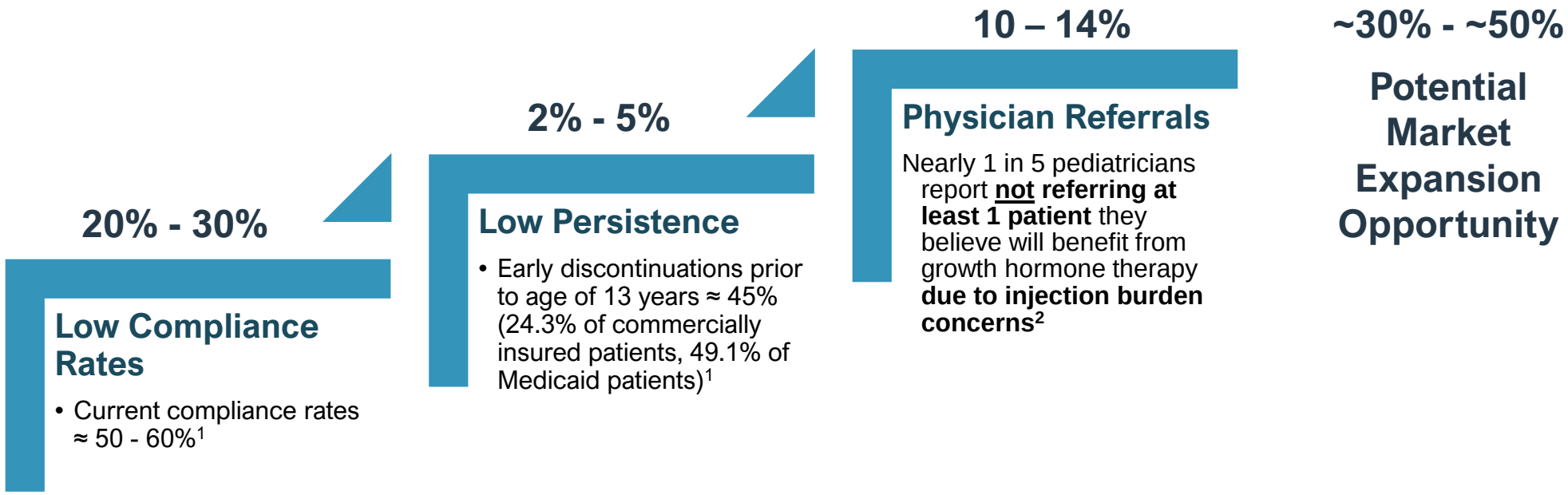
[*] Includes ~$350M in China sales, indication undisclosed, and ~$65M in Japan sales, Other or Undetermined; also includes global sales for other short stature syndromes such as Noonan Syndrome, SHOX deficiency, cancer cachexia, etc.

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

Long-Acting Injectables Should Grow the Market Prior to LUM-201 Launch



Quantifying the Market Expansion Opportunity



Basis for expansion

Average US treatment adherence for daily oral therapies = 80%, PEM+ portion[3]

Treatment persists through epiphyseal plate closure

Pediatricians expect to refer ~14% more patients if a daily oral therapy is approved and readily reimbursed*[2]

1. Kaplowitz, et al, "Economic Burden of Growth Hormone Deficiency in a US Pediatric Population, JMCP, August 2021
2. Quantitative survey of US pediatricians (n = 50) conducted by Blue Matter Consulting for Lumos Pharma, July 2021
3. Treatment Adherence Statistics, CVS, www/epill.com

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

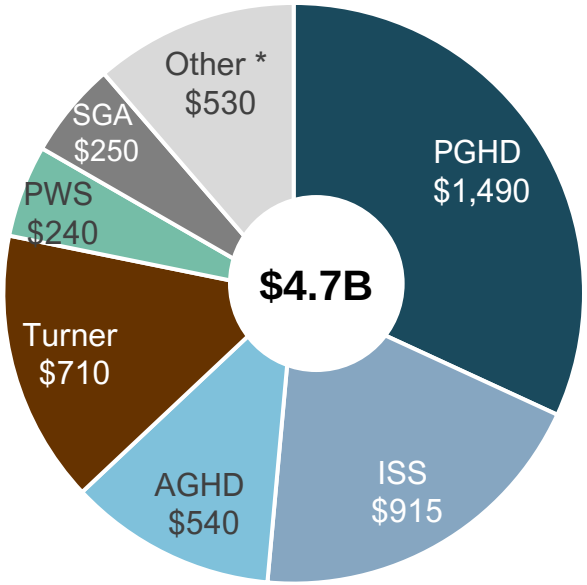
Additional Indications for Oral LUM-201

- 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

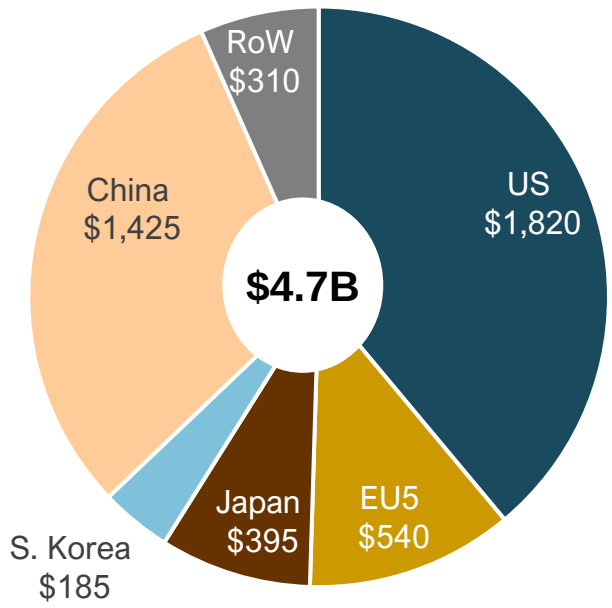
[1] Initial Primary Research of PGHD Market conducted for Lumos by Triangle Insights showed majority of physicians and caregivers preferred daily oral to weekly injections. Physicians N = 20. Caregivers N = 9. [2] Primary market research performed by Blue Matter Consulting, internal Lumos analysis based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

rhGH Market Gross Sales – by Indication and by Region

2022 rhGH Global Sales by Indication
(Gross, Including China, US$ MM)



2022 rhGH Global Sales by Region
(Gross, US$ MM)



Key growth drivers for rhGH market suggest promising outlook

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

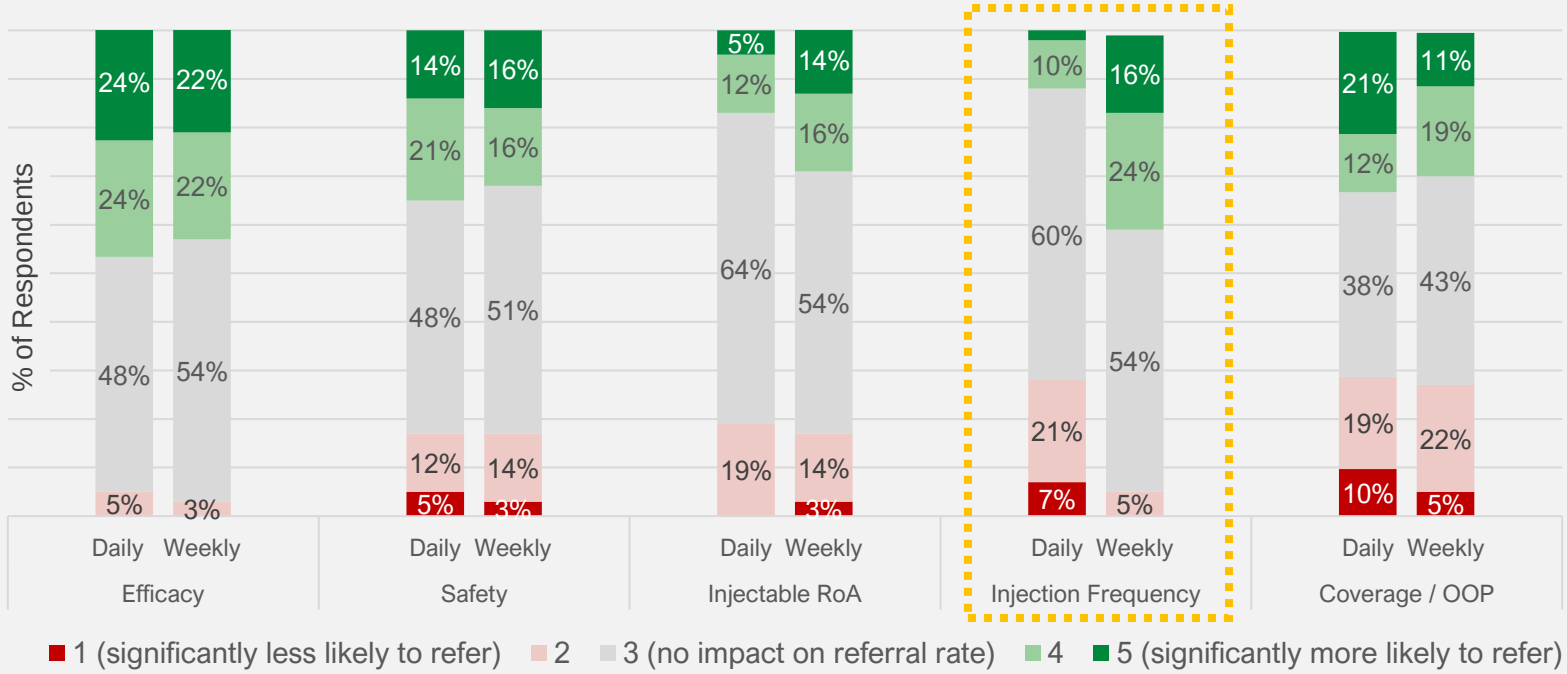
- Very mature market
- Pricing pressures
- Inconsistent reimbursement policies

*Includes ~$350M in China sales, indication undisclosed, and ~$65M in Japan sales, Other or 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

Pediatricians view daily injections as burdensome, which does impact their referral decisions

Impact of Current Treatment Characteristics on Decision to Refer

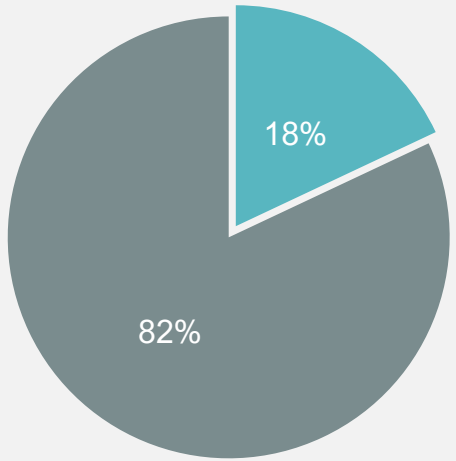


"Safety and potential long-term complications and consequences are the biggest concerns for initiating growth hormone treatment"

"My referrals are seldom based on the treatment options available or the routes of administration - I usually leave this conversation up to the endocrinologist to discuss with the patient family so they can make a decision together"

Sample: n=42 respondents for daily; n=37 for weekly injections

Impact of Injection Burden

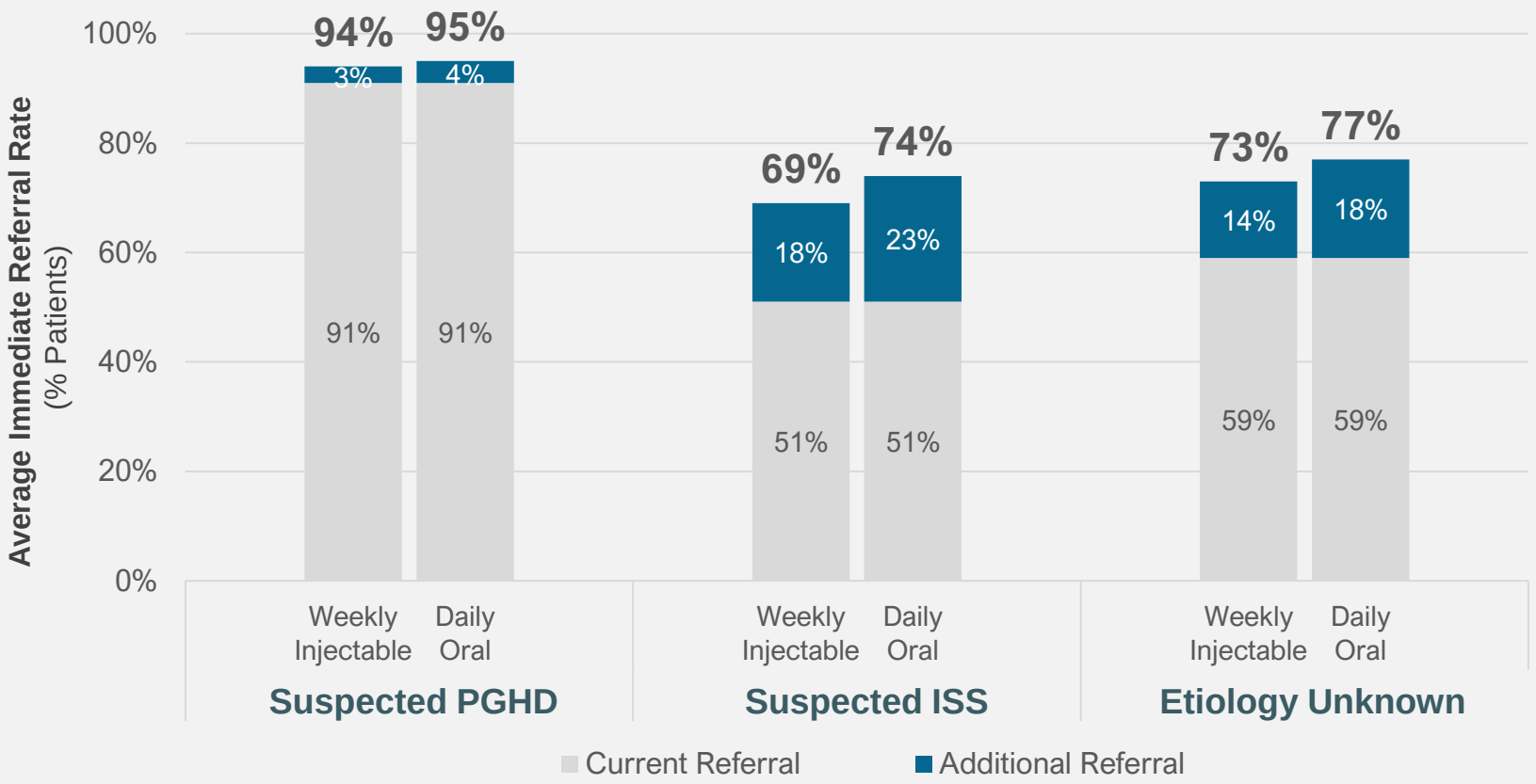


Nearly 1 in 5 pediatricians report **not referring at least 1 patient** they believe will benefit from growth hormone therapy **due to injection burden concerns**

9 respondents included in analysis

Availability of daily oral therapy is expected to increase immediate referral rates for patients with suspected ISS or short stature of unknown etiology

Impact of Future Treatment Options on Referral by Etiology



Key Insights

- New treatments will have **minimal impact on already high referral rates for suspected PGHD**
- Referral rates are **expected to increase** for both
  - Suspected ISS patients (additional 23% of patients)
  - Patients with unknown etiology (additional 18% of patients)
- Moderate PGHD may be **suspected ISS or unknown etiology**

n=33 respondents completed question for daily oral available; n=29 completed question for weekly injection available
* Weekly rhGH injectables are widely available / readily reimbursed
* Daily oral treatment, with comparable efficacy to currently available rhGH therapies, is approved / readily reimbursed

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

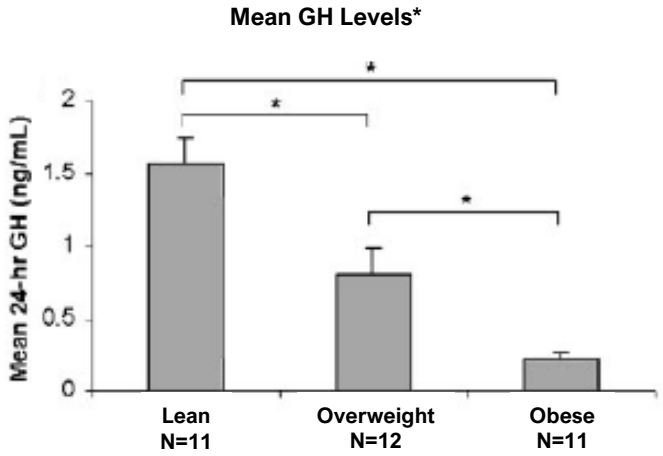
- Increase in pulsatile release of GH by augmenting natural physiology
- rhGH therapy repartitions visceral fat to the periphery and increases muscle mass
- Obtain weight loss benefits from GLP-1 with body composition and metabolic benefits of GH therapy in a physiologically controlled manner

[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

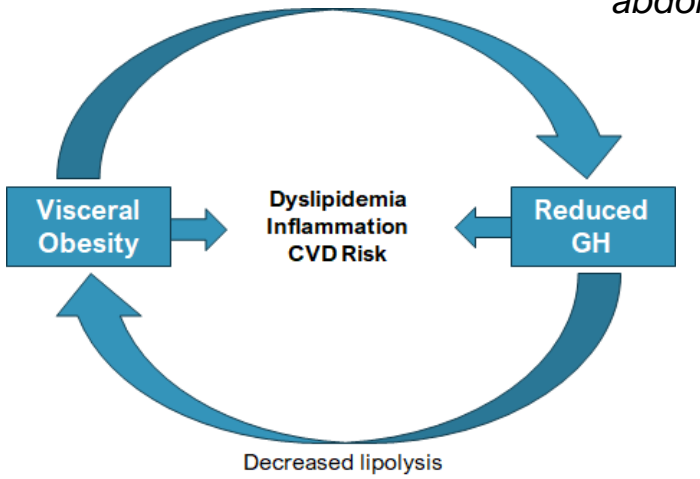
Growth Hormone Plays an Important Role in Metabolic Function and Cardiovascular Health

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

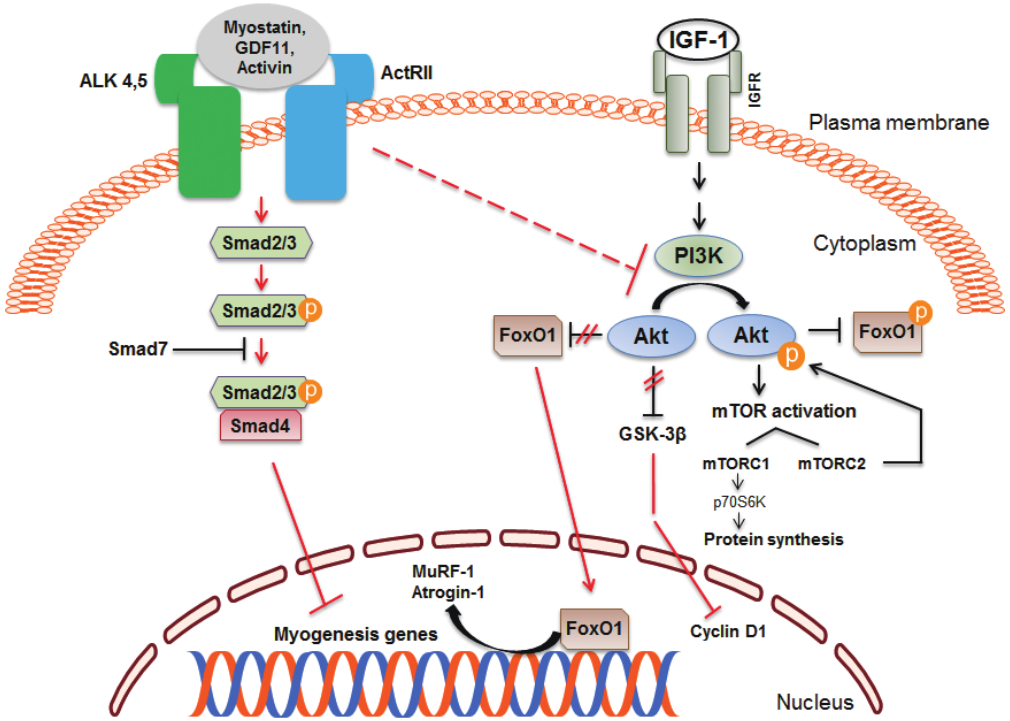
- IGF-1 and myostatin have contrasting roles in regulating skeletal muscle size and growth and act on opposing signaling pathways[1]

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

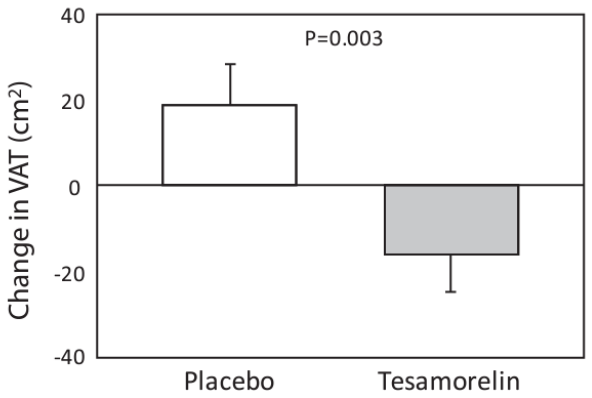
MASH[6]

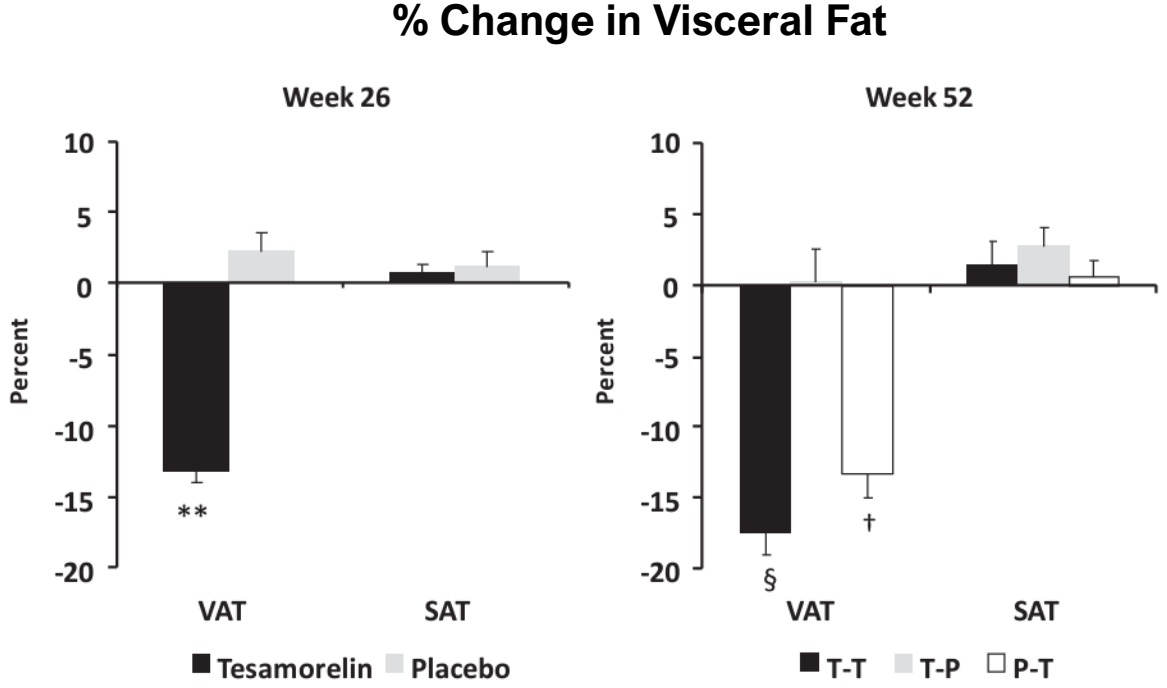
- Significantly reduced hepatic steatosis
- Improvement in ALT

[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





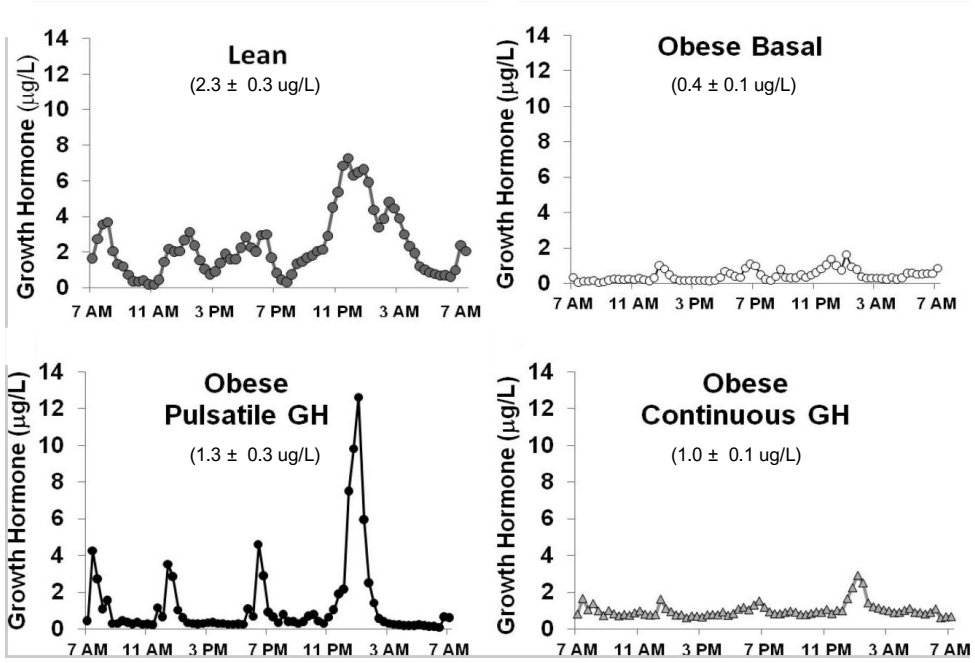
[1]Stanley, Grinspoon, "Effects of growth hormone–releasing hormone on visceral fat, metabolic, and cardiovascular indices in human studies", Growth Hormone & IGF Research 25 (2015) 59-65
VAT: Visceral Adipose Tissue SAT: Subcutaneous Adipose Tissue IMT: Intima-Media Thickness

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

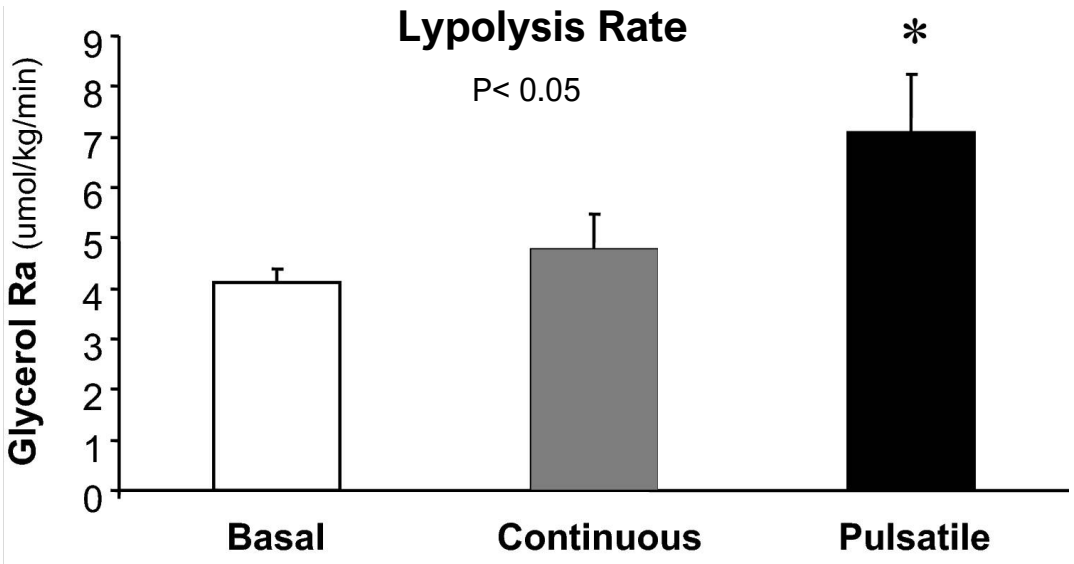
Study Objective: Mimic normal GH physiology to determine treatment effects in obese subjects

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

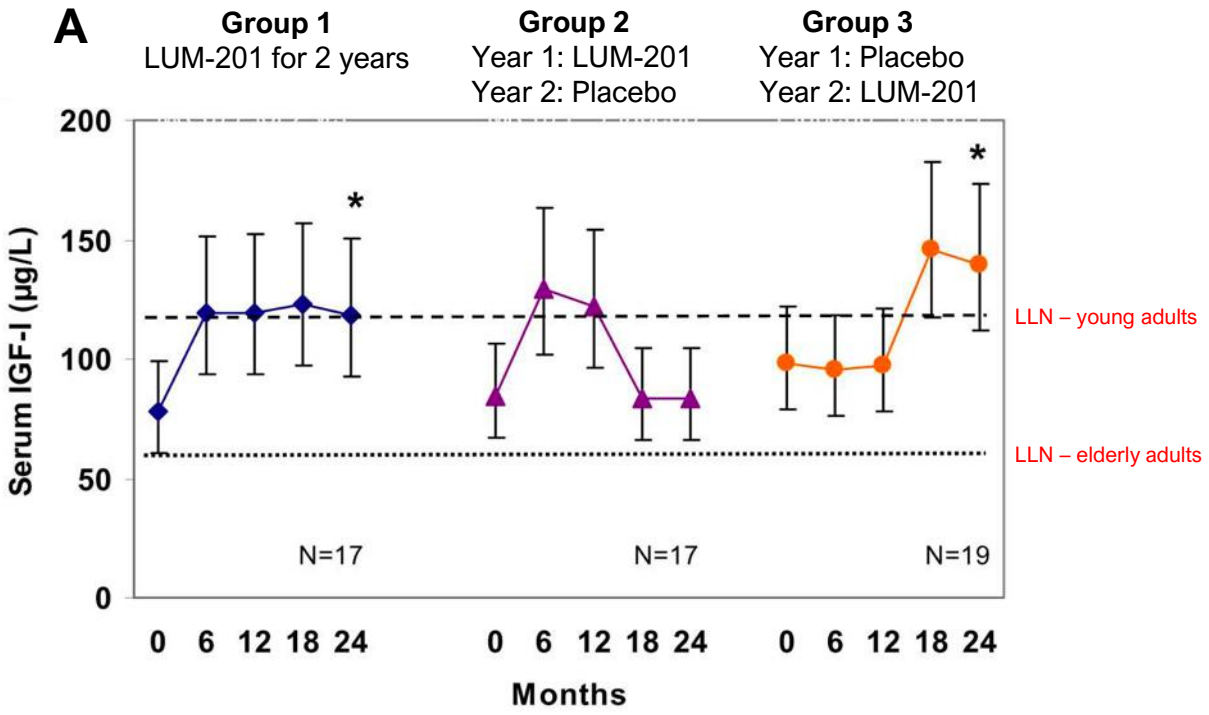
Functional Benefits and Consistent PD Effects Observed in Multiple Adult Disease Settings

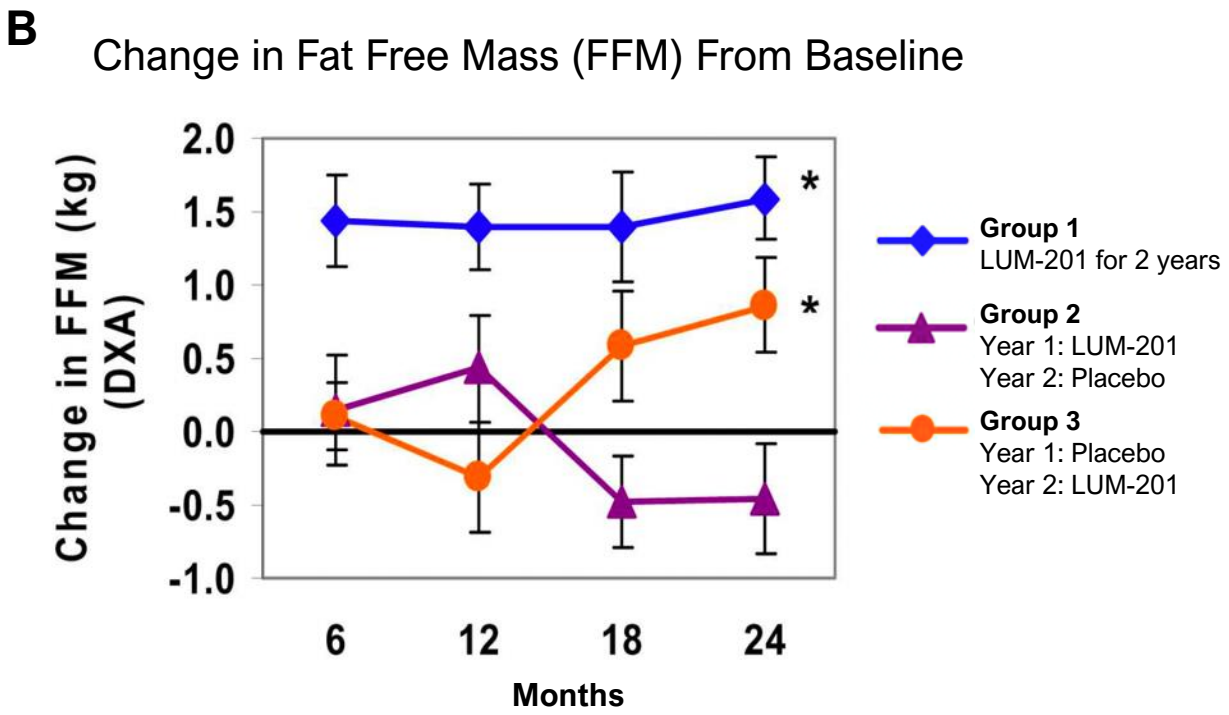
Setting	Treatment Duration[1]	Increase in Serum IGF-1	P-Value	N[1]	Key Findings
Healthy Elderly	12 months	50%	<0.001	43	LUM-201 restored and maintained GH and IGF-1 concentrations back to lower limit of normal for young adults and improved fat free mass[1]; Functional improvements in knee and shoulder 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

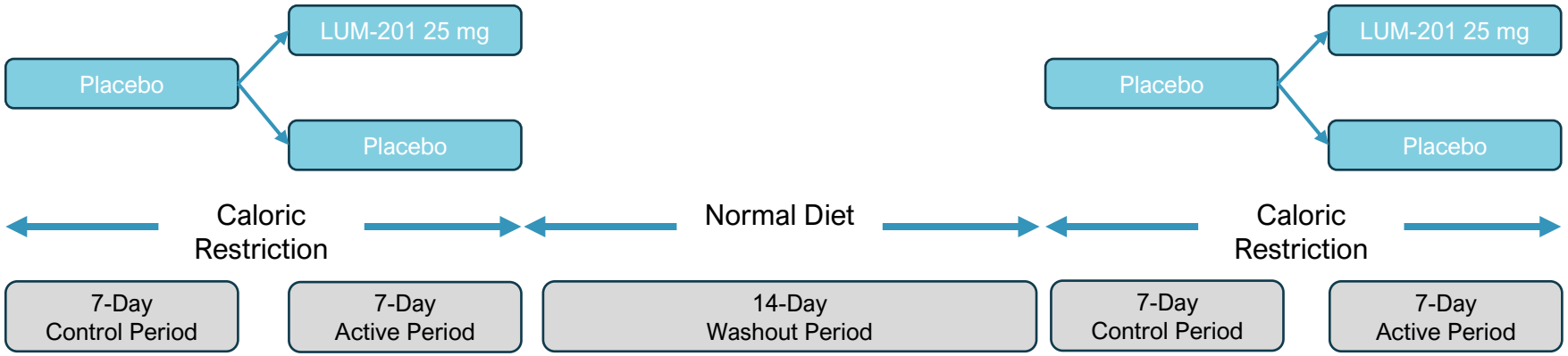
Treatment with LUM-201 restored IGF-1 concentrations to those of normal healthy young adults, increased fat free mass, and demonstrated a sustained effect for up to 24 months

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

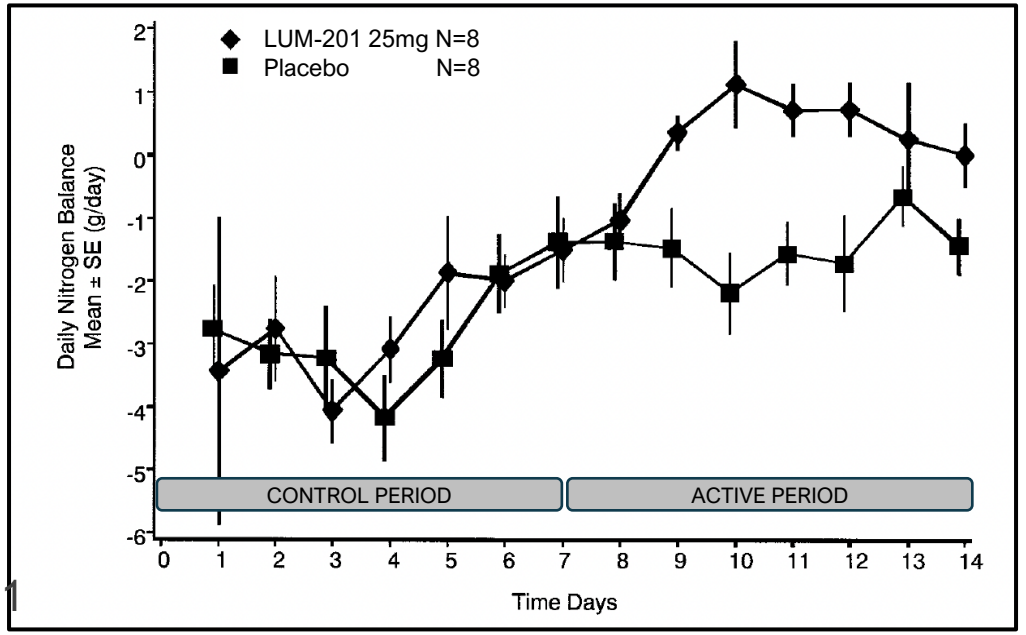
* Asterisk indicates significant change from baseline (Bonferroni-adjusted P-value: Panel A P<0.001; Panel B P=0.026) LLN – Lower Limit of Normal DXA – Dual X-ray Absorptiometry

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