Corporate & Clinical Overview

March 2023

Forward Looking Statements

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This presentation contains forward-looking statements of Lumos 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.

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 progress in our clinical efforts including comments concerning screening and enrollment for our trials, momentum building in our LUM-201 program for PGHD, anticipated timing of interim analyses of trials, LUM-201’s therapeutic potential when administered to pediatric subjects with idiopathic or moderate growth hormone deficiency, that the interim sample size should be adequate to provide an initial indication of LUM 201’s impact, expecting the primary outcome data readout for our trials, market size potential for LUM-201, predictions regarding LUM-201, goals with respect to LUM-201, the potential to expand our LUM-201 platform into other indications, future financial performance, results of operations, cash position, cash use rate and sufficiency of our cash resources to fund our operating requirements through the primary outcome data readout from the OraGrowthH210 and OraGrowthH212 Trials, 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. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make due to a number of important factors, including potential material differences between the interim results of our LUM-201 trials and the final results of the trials which are not known at this time, the effects of pandemics (including COVID-19), other widespread health problems, the Ukraine-Russia conflict, the outcome of our future interactions with regulatory authorities, our ability to project future cash utilization and reserves needed for contingent future liabilities and business operations, the ability to obtain the necessary patient enrollment for our product candidate in a timely manner, the ability to successfully develop our product candidate, the timing and ability of Lumos to raise additional equity capital as needed and other risks that could cause actual results to differ materially from those matters expressed in or implied by such forward-looking statements. 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 in the "Risk Factors" section and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2021, as well as other reports filed with the SEC including our Quarterly Reports on Form 10-Q filed after such Annual Report. 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.

The data contained herein is derived from various internal and external sources. All of the market data in the presentation involves a number of assumptions and limitations, and there can be no guarantee as to the accuracy or reliability of such assumptions. Further, no representation is made as to the reasonableness of the assumptions made within or the accuracy or completeness of any projections or modeling or any other information contained herein. Any data on past performance or modeling contained herein is not an indication as to future performance. 3.1.2023

Investment Highlights

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 • **Potential to disrupt** significant subset of sizable **injectable market** for GHD
Pipeline in a Product	• Worldwide injectable market for GHD disorders is **$3.4 billion*** • Market for initial oral LUM-201 indication, Pediatric GHD (PGHD), is **$1.2 billion*** • Prior data support potential efficacy of LUM-201 in multiple GHD disorders
Late-stage Trials in PGHD	• **Enrollment completed** for Phase 2 OraGrowtH210 and PK/PD OraGrowtH212 Trials • **Primary outcome data** expected **4Q 2023** • Interim data showed LUM-201 met growth expectations • Enriched patient population **de-risks** clinical program as all subjects randomized demonstrate a response to LUM-201 in stimulation test
Solid Financial Position	• Cash balance of **$67.4 million** as of close of **4Q 2022** • Cash runway **into 3Q 2024,** beyond OraGrowtH210 & OraGrowtH212 primary outcome data

PGHD = Pediatric Growth Hormone Deficiency

* USA, Germany, France, Italy, Spain, UK, Japan (Grandview Research, Growth Hormone Market Forecast, 2019)

Management – Significant Clinical Development and Commercial Experience

Richard Hawkins
Chairman & CEO
Developed Growth Hormone (GH) Receptor Antagonist for Acromegaly at Sensus (sold to Pfizer). Built one of the first contract recombinant protein manufacturing facilities (Covance Biotechnology). Founder of Pharmaco, a pioneer in the contract research organization sector (merged with PPD).

John McKew, PhD
President & Chief Scientific Officer
Prior VP of Research at aTyr Pharma – led 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). Director level, Wyeth Research Genetics Institute.

David Karpf, MD
Chief Medical Officer
Adjunct Clinical Professor, Endocrinology, Stanford University School of Medicine. Former VP, Clinical Development at Ascendis Pharma; projects include long-acting TransCon GH and PTH injectables, among other compounds. Prior biotech CMO. Clinical R&D leadership roles at Roche and Merck.

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.

Aaron Schuchart, MBA
Chief Business Officer
Former CBO of Aeglea BioTherapeutics, former leadership roles in Business Development, Strategy, and Finance at Coherus Biosciences, Novartis Diagnostics/Grifols, and Amgen.

Pisit “Duke” Pitukcheewanont, MD
VP Global Clinical Dev & Medical Affairs
Pediatric endocrinologist and Professor, Clinical Pediatrics, Keck School of Medicine, USC. Incoming 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, and others.

LUM-201 Program Pipeline

	Study	Pre-Clinical	Phase 1	Phase 2	Phase 3	Status
LUM-201 (Ibutamoren) in Idiopathic PGHD	Phase 2	OraGrowtH210 TRIAL				Phase 2 trial: Enrollment completed Primary outcome data expected 4Q 2023
	Long-term extension	OraGrowtH211 TRIAL				Proposed long-term extension study for OraGrowtH Trials
	PK/PD trial	OraGrowtH212 TRIAL				PK/PD trial: Enrollment completed Primary outcome data expected 4Q 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 MGH Massachusetts General Hospital

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

PGHD

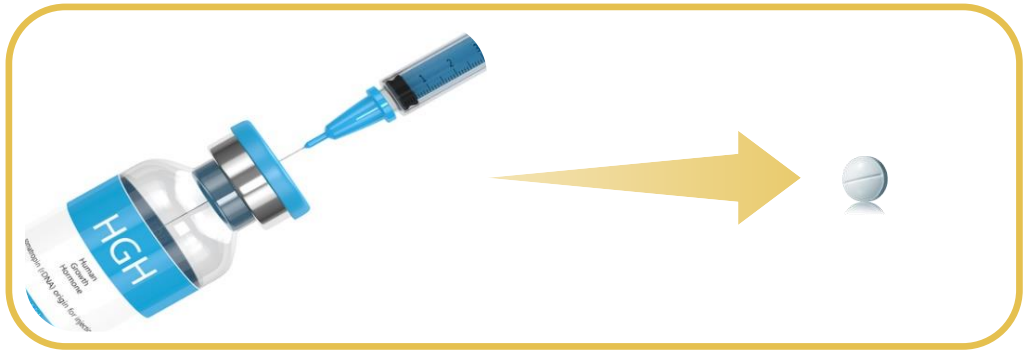
- **Inadequate secretion of growth hormone during childhood**
- Majority of cases are idiopathic
- Slower physical growth
- Negative effect on metabolic processes
- Incidence ≈ 1:3500[1]

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

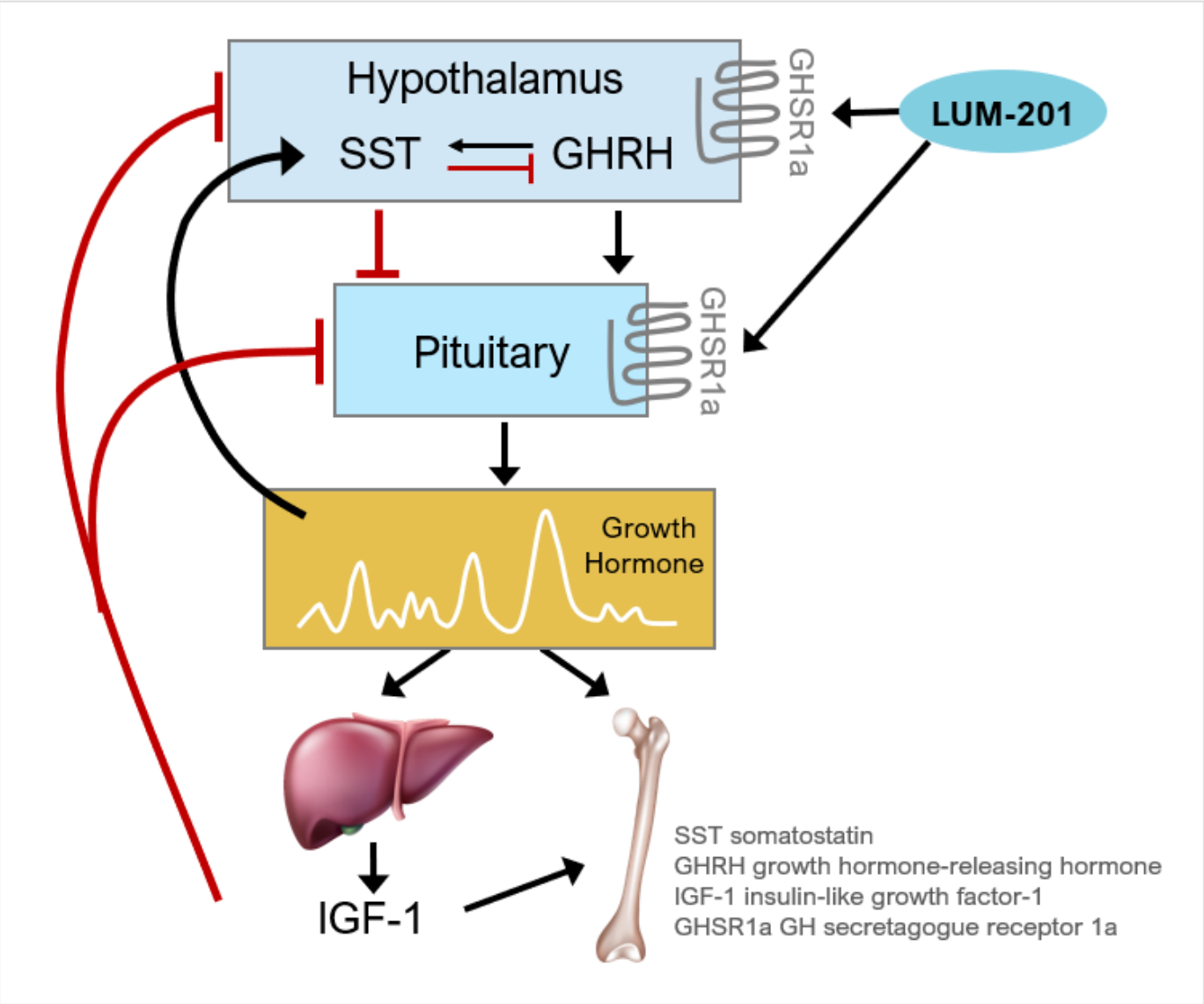
Market Research: Daily Oral Therapeutic Preferred Over Weekly Injectable

Consideration	Market Research Findings[1]
Unmet Need	Non-injectable (oral) therapy; Less frequent administration of injectable therapy
Preference	Vast majority of physicians & caregivers surveyed prefer daily oral tablet over weekly injectable
MOA	Favorable impression regarding LUM-201 affecting natural physiology vs bolus rhGH treatment
Treatment Decisions	Collaborative between physicians and caregivers
Payer Decisions	Price policies in place for category – small molecule COGS should provide attractive margins

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

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

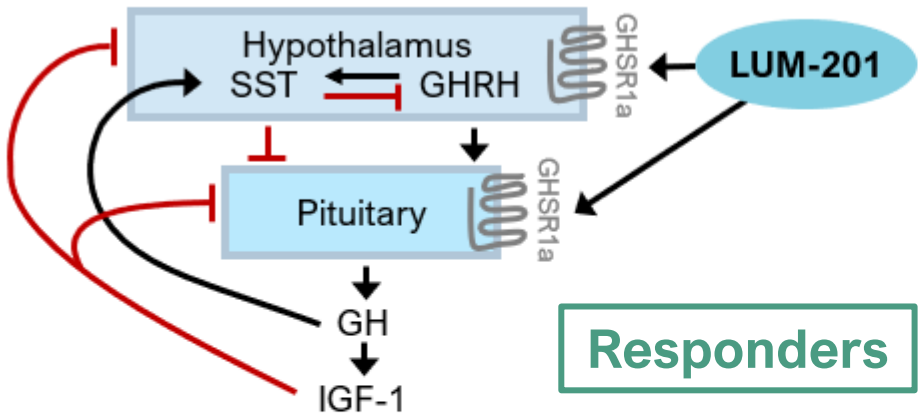
[1] Howard 1996 Science [2] Nass 2008 Ann Intern Med [3] Chapman 1997 J Clin Endocrinol Metab

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

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

~ PEMs = Predictive Enrichment Markers ~
A single dose of LUM-201 can identify likely responders

Moderate (PEM+): Included in Clinical Trials



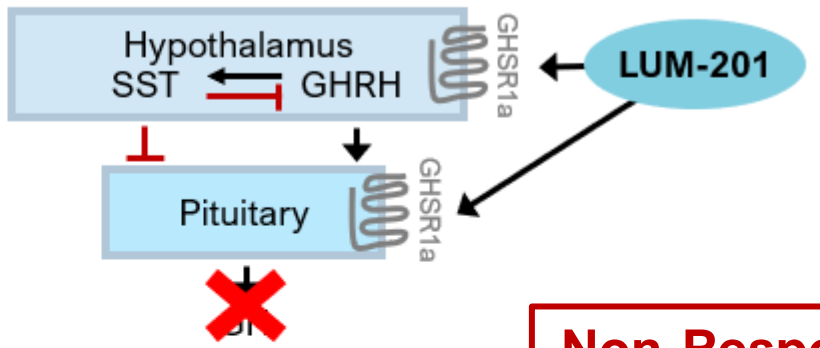
Responders

Moderate (PEM+) = Idiopathic PGHD

Functional but reduced HP-GH axis

- Able to secrete some, but insufficient, GH
- Expected to respond to LUM-201[1]
- Represents ~60% of PGHD patients[2]

Severe (PEM−): Excluded from Clinical Trials



Non-Responders

Severe (PEM−) = Organic PGHD

Non-functional HP-GH axis

- Unable to secrete GH
- Not expected to respond to LUM-201
- Represents ~40% of PGHD patients[2]

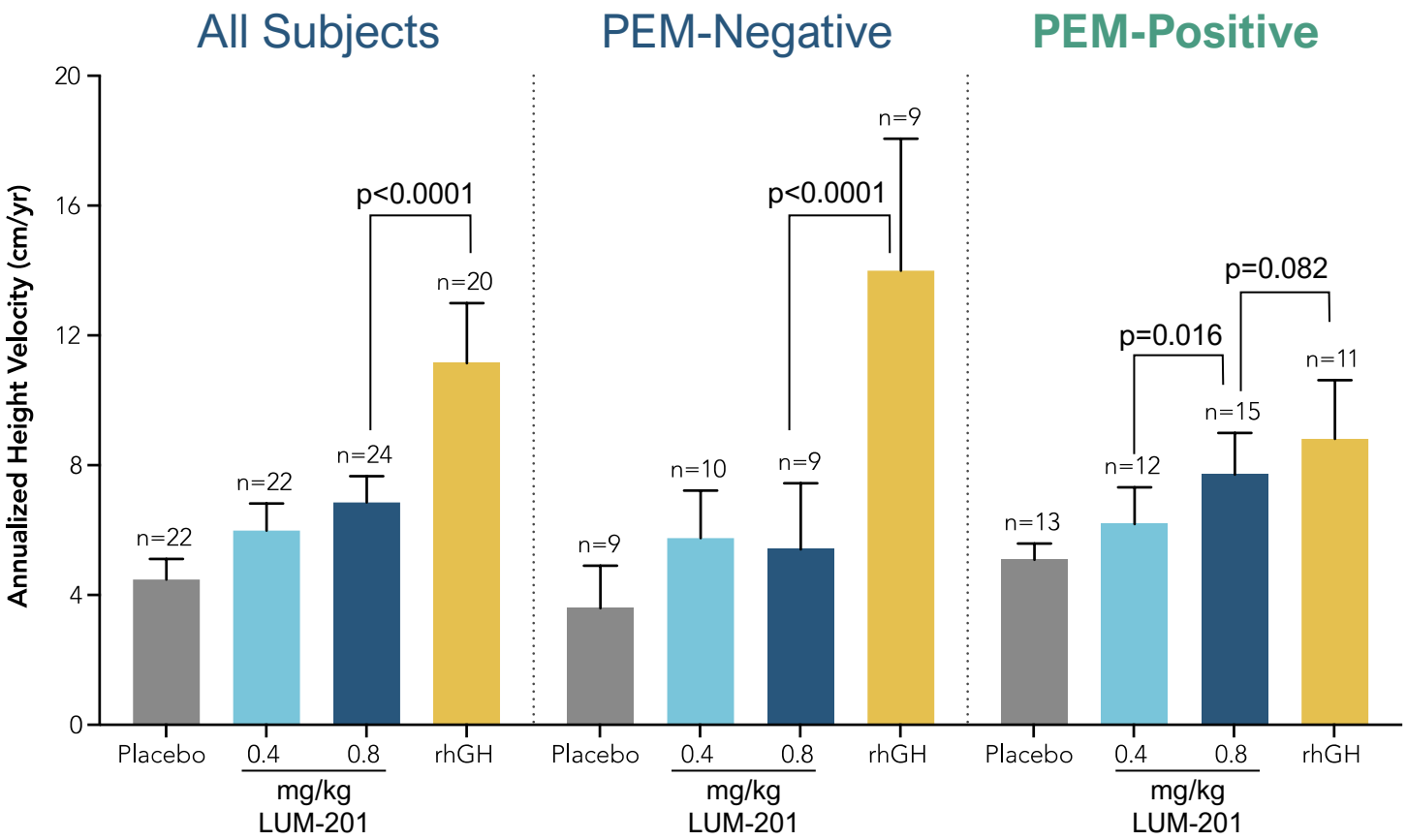
(PEM+) PEM-positive = PGHD patients with baseline IGF-1 > 30 ng/ml & stimulated GH ≥ 5 ng/ml
HP-GH axis – hypothalamic pituitary growth hormone axis

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

Study 020 Post-Hoc Analysis: PEM-Positive Patients Responsive to LUM-201

PEM = Predictive Enrichment Marker

- Multiple LUM-201 trials conducted by Merck
  - In ~1000 adults – for sarcopenia, other
    - GH/IGF-1 raised from baseline by LUM-201
  - In ~200 children – for PGHD
- Naïve PGHD, Study 020[1]
  - N=68; three arms
  - Placebo patients switched to rhGH at 6 months
  - Annualized growth shown for each arm
- PEM-positive subset:
  - LUM-201 0.8 mg/kg not statistically different from rhGH
  - Dose response: 0.8 mg/kg statistically superior to 0.4 mg/kg



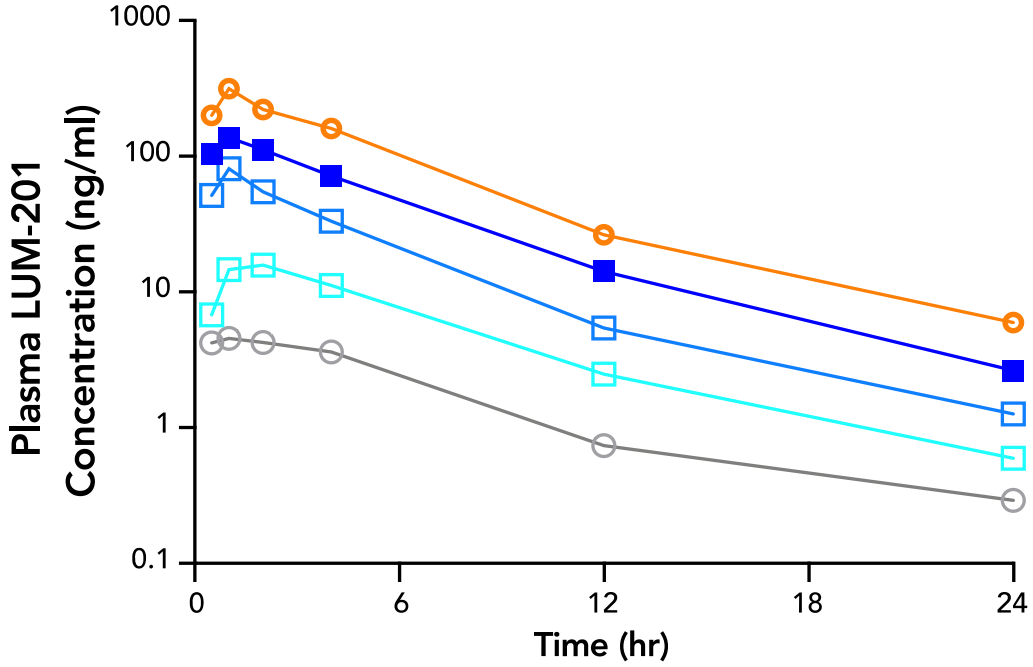
Expect prospective inclusion of only PEM(+) patients and higher doses to improve response to LUM-201

[1] Bright 2021 JES

PK/PD: Evidence of a PK and PD Dose Response in Healthy Volunteers

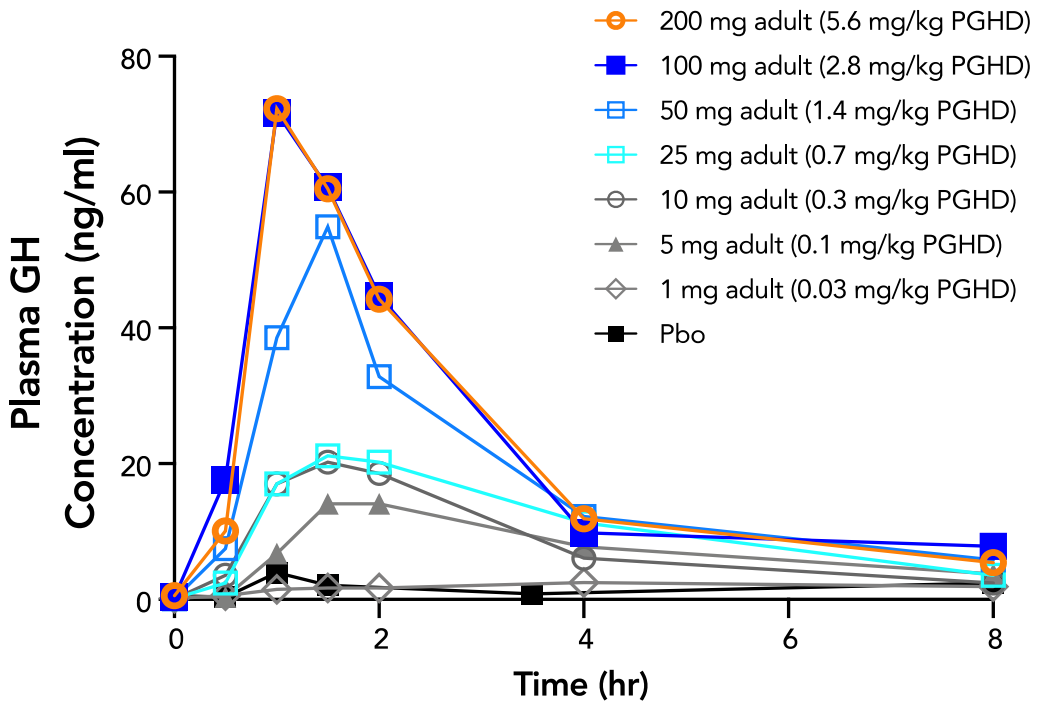
Pharmacokinetics

Dose response to 5.6 mg/kg PGHD dose equivalent*



Pharmacodynamics

PD plateau possible ≥ 2.8 mg/kg PGHD dose equivalent*



Higher LUM-201 doses produce higher plasma concentrations of LUM-201 & GH up to PD plateau
PD curve shows potential for LUM-201 doses in OraGrowtH210 Trial to produce greater GH response

Merck Study 001 in healthy adult subjects, results based on single LUM-201 dose administered

*Dose equivalence is based on AUC

OraGrowtH210 Trial

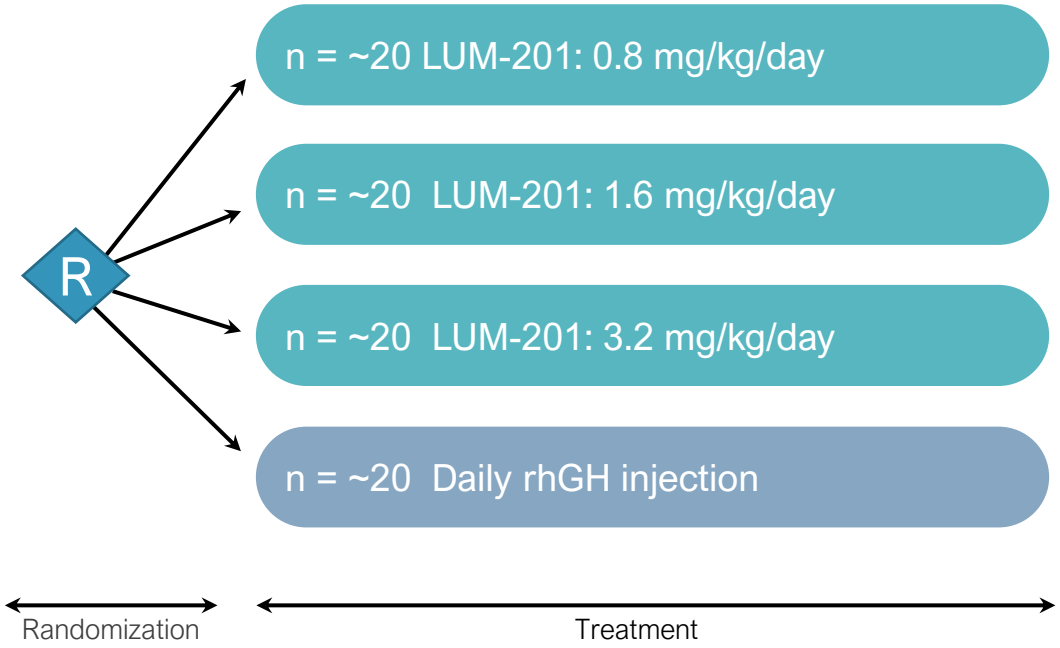
Phase 2 Trial Evaluating Oral LUM-201 in Moderate Idiopathic PGHD

OraGrowtH210 Trial: Phase 2 Trial in Idiopathic PGHD – Enrollment Completed

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
- Trial opened Q4 2020

Interim Data Analysis (n = **41**) – at **6 months** on therapy
Primary Outcome Data (n = **82**) – at **6 months** on therapy
Total Study Duration – 24 months



Objectives

Primary Endpoint:

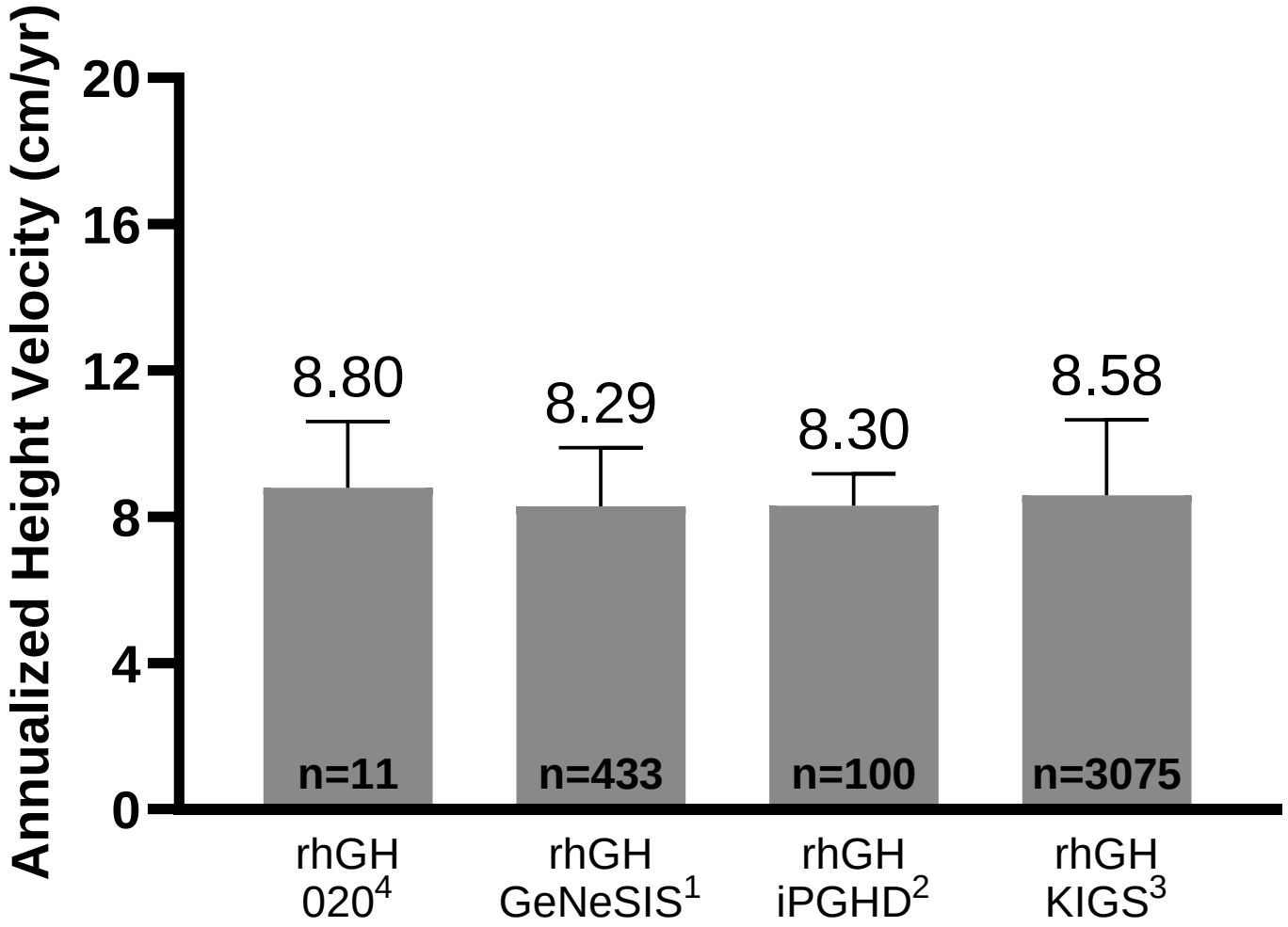
- Annualized Height Velocity (AHV)

Goals:

- Prospectively confirm utility of PEM strategy
- Determine optimal dose for Phase 3

Primary outcome data for OraGrowtH210 Trial on 82 subjects anticipated 4Q 2023
Interim AHV and safety data on 41 subjects at 6 months on therapy announced November 2022

Historical Data for rhGH Growth Rates in Moderate Idiopathic PGHD Patients



Historical Datasets

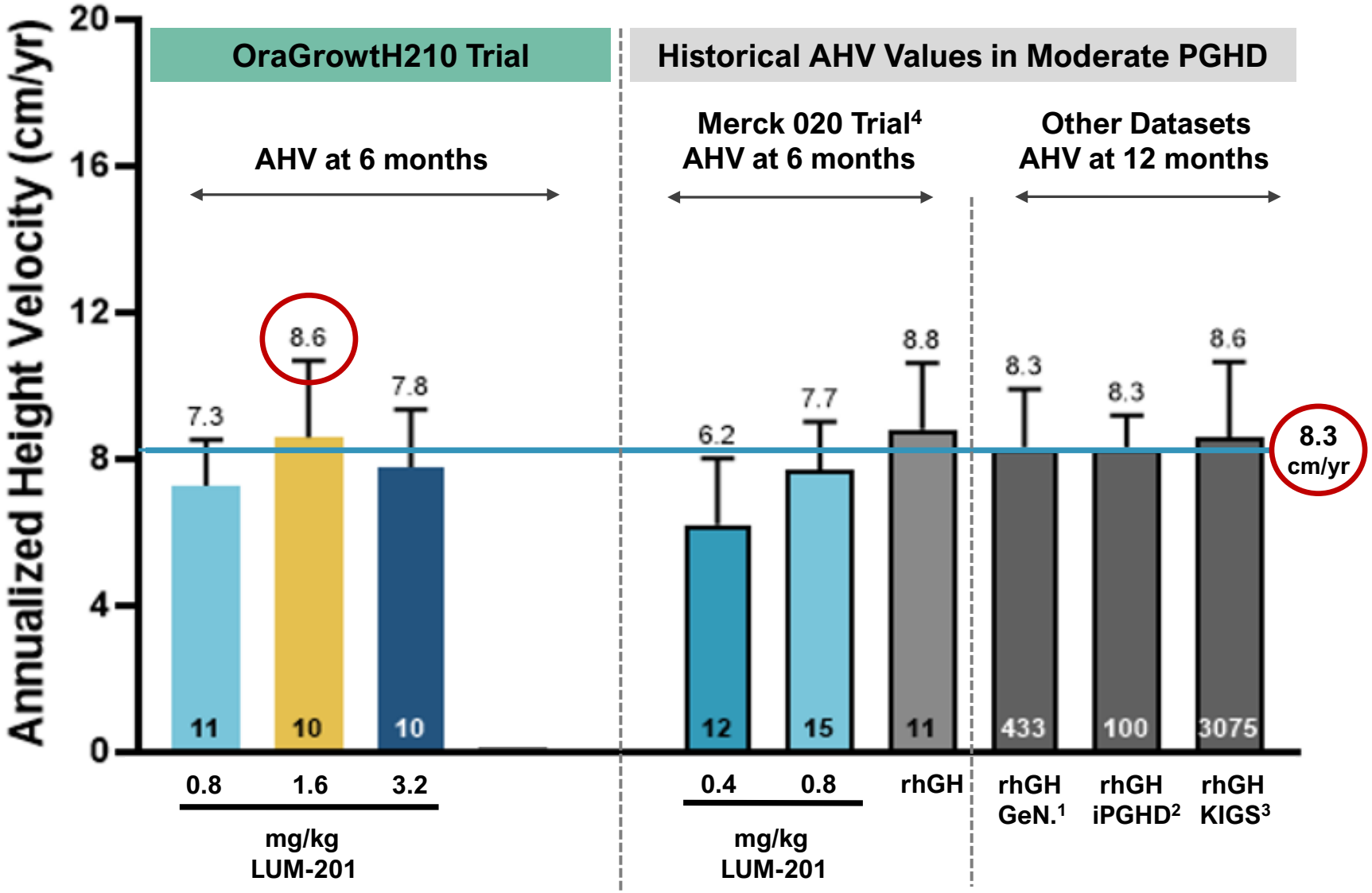
- GeNeSIS[1], iPGHD[2], and KIGS[3] AHV from 12 months of rhGH
- Merck 020[4] AHV from 6 months of rhGH
- These trials set precedent for expected growth on rhGH in moderate idiopathic PGHD

Prediction

- Prediction for growth in OraGrowthH210 is AHV of ~8.3 cm/yr on both rhGH and LUM-201 based on this historical data

Sources: 1 Blum et al JES 2021, 2 Lechuga-Sancho et al JPEM 2009, 3 Ranke et al JCEM 2010, 4 Bright et al JES 2021.

LUM-201 Growth in OraGrowtH210 Trial is Consistent with Historical Precedent



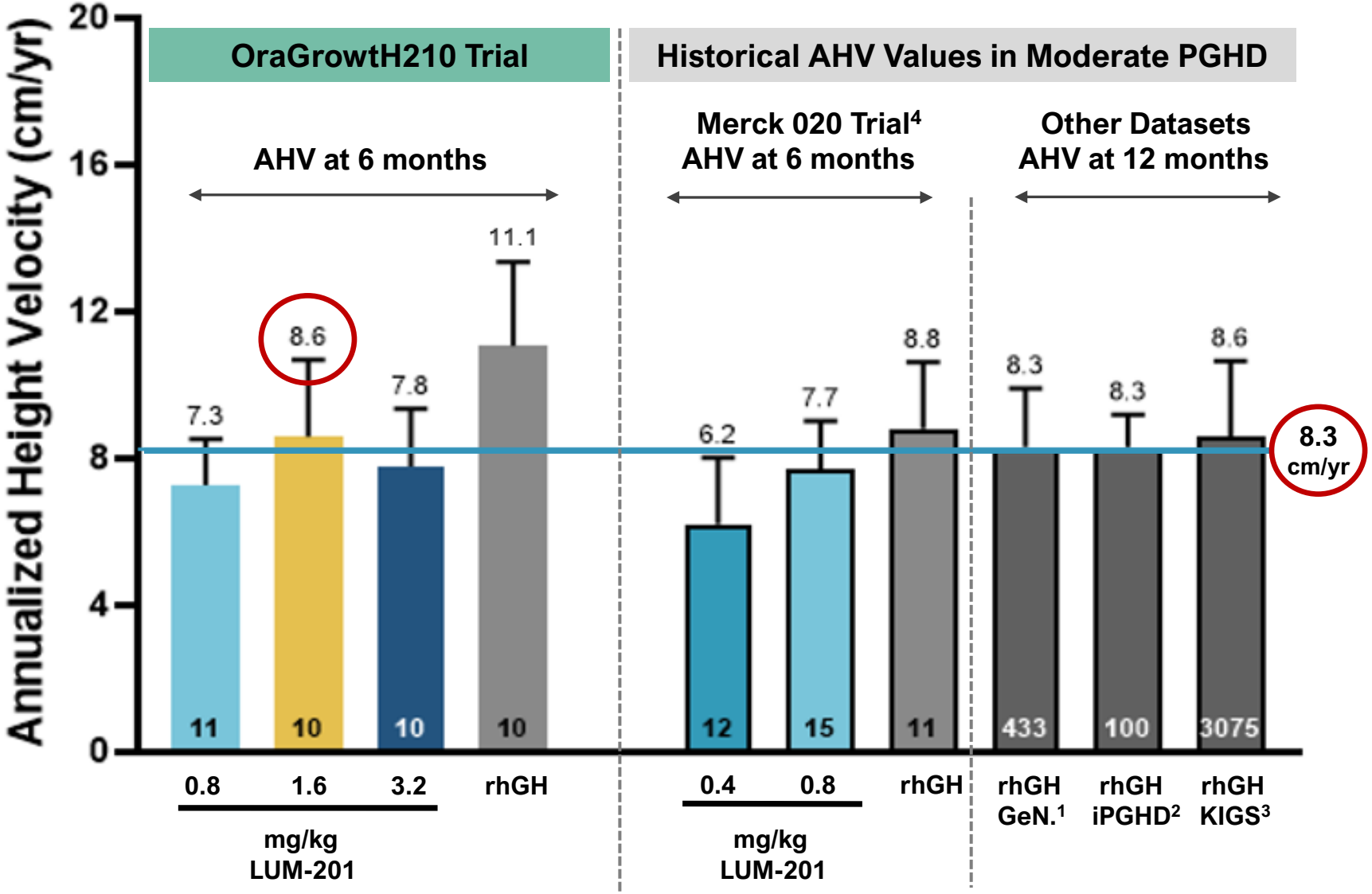
OraGrowtH210 Trial Interim Results

- LUM-201 1.6 mg/kg/day cohort grew **8.6** cm/year, in line with the expected rate of ~ **8.3** cm/year from prior data
- Expected growth rate was based on historical AHV values from multiple datasets of moderate idiopathic PGHD patients treated with rhGH

LUM-201 Growth Met Expectations

Sources: [1] Blum et al JES 2021, [2] Lechuga-Sancho et al JPEM 2009, [3] Ranke et al JCEM 2010, [4] Bright et al JES 2021.

rhGH Growth in OraGrowtH210 Trial Inconsistent with Historical Norms



OraGrowtH210 Trial Interim Results

- rhGH cohort grew at a much faster rate than expected or previously reported in moderate PGHD population
- Cohort baseline differences predict faster first-year growth in the rhGH arm[1,3]
- The balance between cohorts should improve with full enrollment of trial

AHV disparities should narrow as baseline imbalances improve

Sources: [1] Blum et al JES 2021, [2] Lechuga-Sancho et al JPEM 2009, [3] Ranke et al JCEM 2010, [4] Bright et al JES 2021.

Key Baseline Characteristics that Predict Better AHV With rhGH Treatment of PGHD Patients

Historical data from multiple peer-reviewed scientific publications demonstrate the following metrics as key predictors of first-year growth

- Baseline Age
  - Age is the top predictor of growth on treatment
  - **Younger PGHD subjects grow faster[1]**
- Baseline Height
  - **Shorter stature at baseline predicts greater 1st year growth[2]**
- Baseline IGF-1 SDS
  - **Lower baseline IGF-1 SDS predicts faster growth[3]**
- Baseline Mid-parental height & Delta MPH SDS
  - **Greater mid-parental height and subject Height SDS farther below MPH SDS predicts greater 1st year growth[4]**
- Baseline weight (BMI)
  - **Greater baseline weight (higher BMI) predicts faster growth[5]**

[1] Ranke, et al. Growth Horm & IGF Res (2009) 19:1–11; Lee, et al. Internat J Pediat Endocrin (2011):6; Yang, et al. Nature Sci Rep (2019) 9(1):16181; Blum et al JES (2021); Ranke et al JCEM (2010); Blethen, et al. JCEM (1993 Mar);76(3):574-9; Cho, et al. J Korean Med Sci. (2020 May) 35(19):e151

[2] Ranke, et al. Growth Horm & IGF Rese (2009) 19:1–11; Lee, et al. Intern J Pediat Endocrin (2011):6; Cho, et al. J Korean Med Sci. (2020 May) 35(19):e151; Ranke et al. JCEM (2005) 90(4);1966-1971

[3] Ranke, et al. Growth Horm & IGF Res (2009) 19:1–11; Lee, et al. Internat J Pediat Endocrin (2011):6

[4] Ranke, et al. Growth Horm & IGF Res (2009) 19:1–11; ; Lee, et al. Intern J Pediat Endocrin (2011):6; Cho, et al. J Korean Med Sci. 2020 May 18;35(19):e151

[5] Ranke, et al. Growth Horm & IGF Res (2009) 19:1–11; Lee, et al. Intern J Pediat Endocrin 2011:6; Cho, et al. J Korean Med Sci. 2020 May 18;35(19):e151; Blethen, et al. JCEM (1993 Mar);76(3):574-9; Ranke, et al. JCEM (2005) 90(4);1966-1971; Yang, et al. Nature Sci Rep 2019, 9(1); 16181

OraGrowtH210 Trial Baseline Characteristics – at Interim Data (N=41)

Imbalance in baseline characteristics between rhGH and LUM-201 arms

	LUM-201 0.8 mg Mean (SD) N=11	LUM-201 1.6 mg Mean (SD) N=10	LUM-201 3.2 mg Mean (SD) N=10	rhGH Mean (SD) N=10
Age (months)	95.5 (28.2)	99.3 (28.3)	96.1 (21.7)	90.3 (26.7)
Height (cm)	113.8 (12.6)	114.6 (9.6)	113.8 (8.8)	111.6 (11.9)
Height SDS	-2.31 (0.32)	-2.35 (0.62)	-2.30 (0.48)	-2.29 (0.43)
Max Height SDS	-1.76	-1.66	-1.57	-1.73
IGF-1 SDS	-1.24 (0.573)	-1.17 (0.72)	-1.39 (0.61)	-1.37 (0.48)
Max IGF-1 SDS	-0.3	-0.3	-0.6	-0.7
MPH (cm)	164.47 (6.44)	166.98 (7.15)	166.20 (8.06)	168.78 (8.85)
MPH SDS Δ	1.29 (0.62)	1.76 (0.60)	1.96 (0.83)	1.76 (0.73)
BA Delay (yrs)	1.89 (1.02)	1.91 (0.53)	2.19 (0.86)	1.78 (0.96)
BMI SDS[1]	-0.29 (1.04)	-0.35 (0.79)	-0.70 (0.48)	+0.31 (1.05)

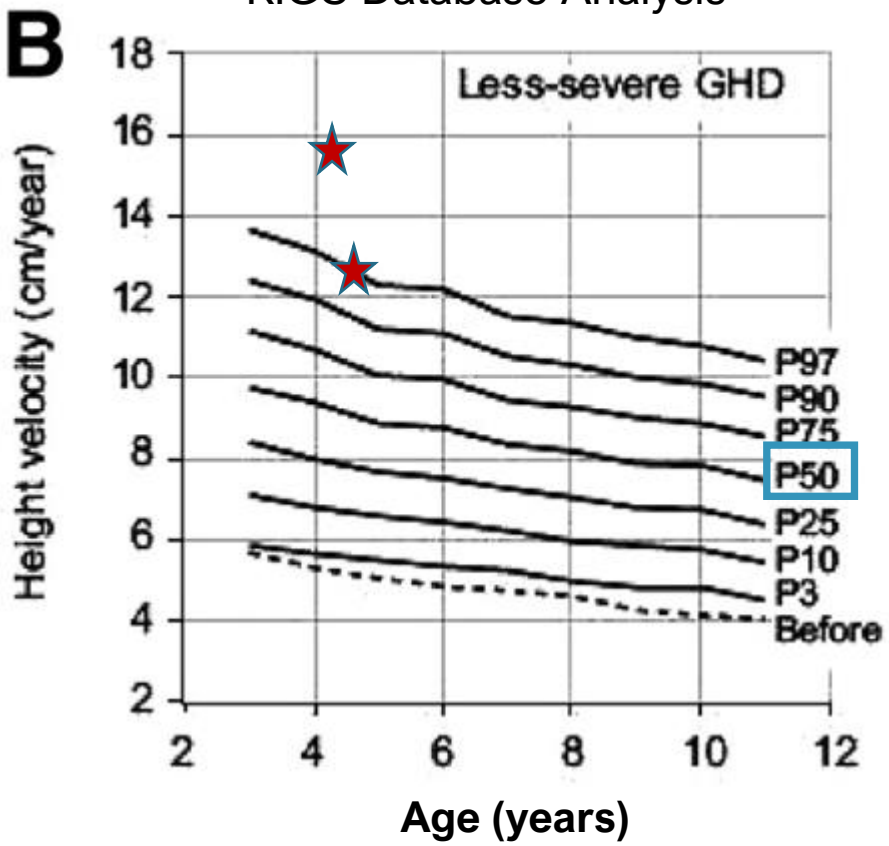
Baseline characteristics for the rhGH arm predict this cohort will show a faster first-year growth rate on treatment than the LUM-201 cohorts [2,3]

[1] Yang, et al. Nature Sci Rep 2019, 9(1); 16181 [2] Blum et al JES 2021, [3] Ranke et al JCEM 2010

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

Growth Outliers in the rhGH Cohort: 2 of 3 Subjects under Age 5 Randomized to rhGH

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



★ OraGrowtH210 youngest subjects in rhGH cohort at 6-months AHV

P lines = Percentiles
"Before" line marks height velocity before GH therapy

[1] Ranke, et al 2010 JCEM

OraGrowtH210 Trial Baseline Characteristics – at ~75% Enrollment

Balance improves at ~75% enrollment

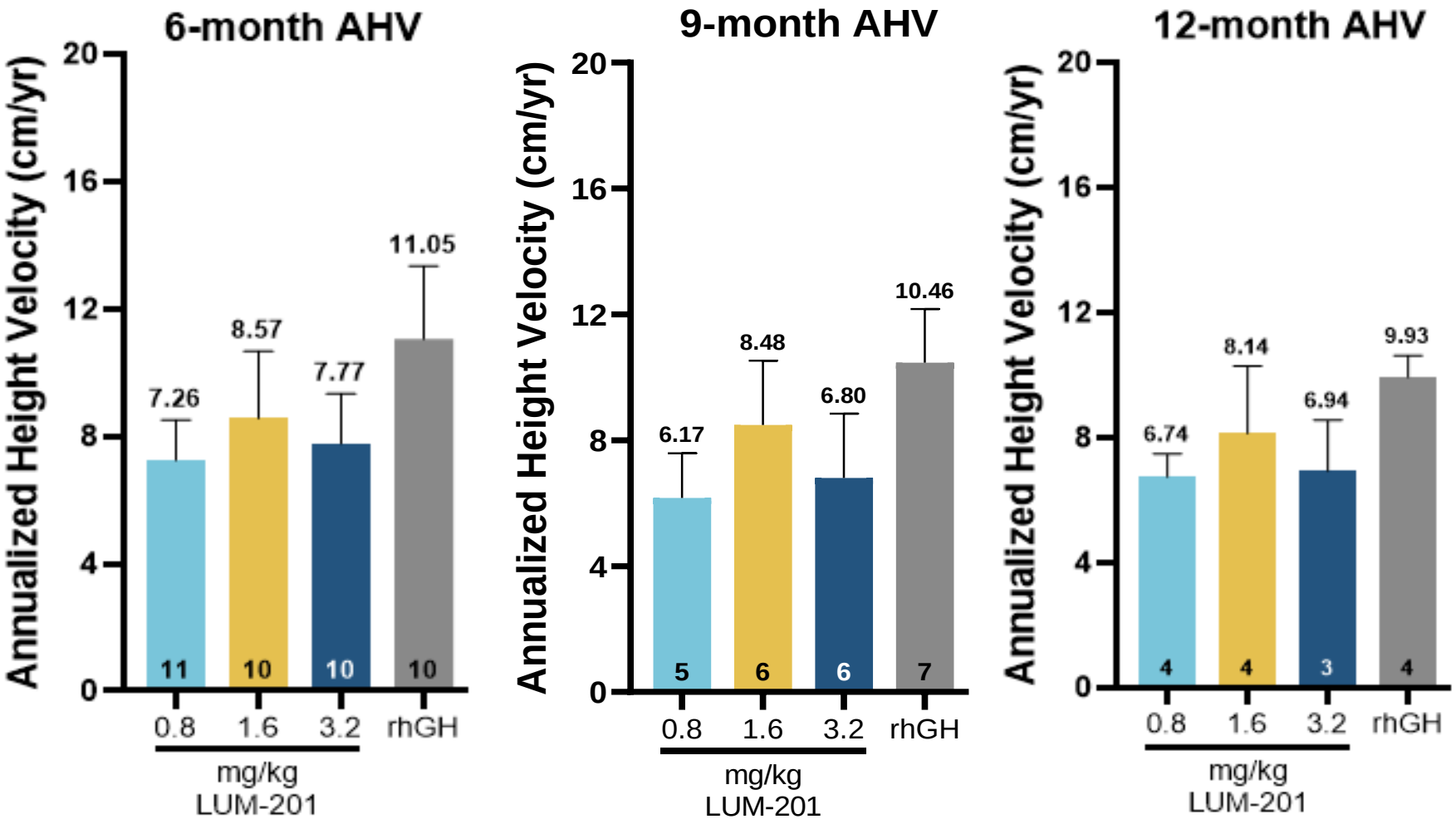
	LUM-201 0.8 mg Mean (SD) N=14	LUM-201 1.6 mg Mean (SD) N=15	LUM-201 3.2 mg Mean (SD) N=14	rhGH Mean (SD) N=15
Age (months)	99.1 (28.3)	98.4 (28.6)	92.9 (22.6)	94.1 (23.7)
Height (cm)	115.1 (12.5)	114.6 (11.2)	112.4 (9.2)	113.4 (10.6)
Height SDS	-2.32 (0.3)	-2.31 (0.5)	-2.32 (0.4)	-2.25 (0.4)
Max Height SDS	-1.76	-1.66	-1.57	-1.73
IGF-1 SDS	-1.43 (0.67)	-1.30 (0.67)	-1.35 (0.57)	-1.32 (0.46)
Max IGF-1 SDS	-0.3	-0.3	-0.6	-0.7
MPH (cm)	165.5 (7.1)	164.3 (7.2)	166.1 (7.0)	168.5 (7.9)
MPH SDS Δ	1.43 (0.66)	1.70 (0.54)	1.92 (0.73)	1.75 (0.63)
BA Delay (yrs)	1.89 (1.02)	1.91 (0.53)	2.20 (0.86)	1.68 (0.9)
BMI SDS[1]	-0.47 (1.09)	-0.38 (0.91)	-0.55 (0.79)	+0.14 (1.08)

At ~75% enrollment, baseline characteristics more in balance, effect of outliers should be diminished

[1] Yang, et al. Nature Sci Rep 2019, 9(1); 16181 [2] Blum et al JES 2021, [3] Ranke et al JCEM 2010

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

OraGrowtH210 Interim Data: LUM-201 Demonstrates Durable Response to 12 Months



Conclusions

- LUM-201 growth rates consistent from 6 to 12 months
- rhGH growth rates decline more from 6 to 12 months, narrowing the AHV Δ between the arms at 12 months
- A Phase 3 non-inferiority trial is expected to be a 12-month study in a much larger population
- Historically, non-inferiority margin for AHV's in Phase 3 trials was ~2 cm at 12 months

OraGrowtH212 Trial

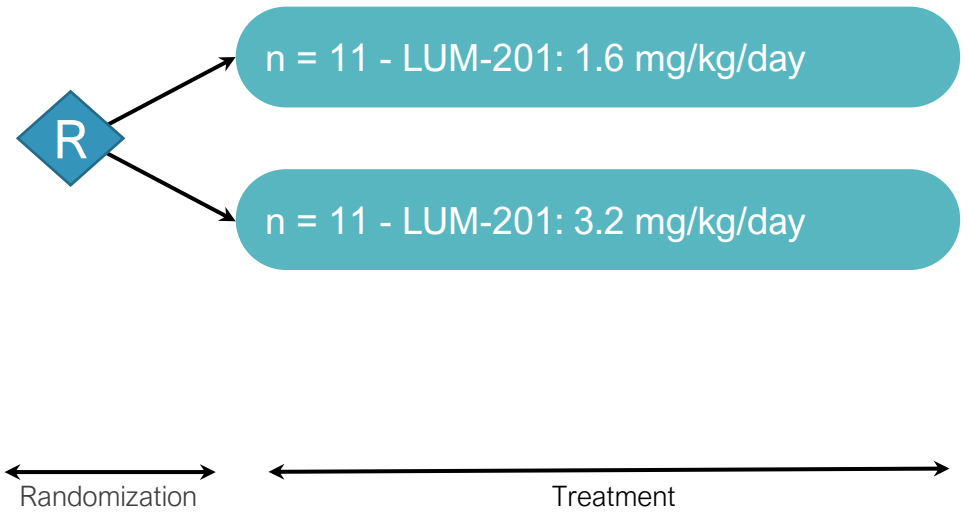
PK/PD Trial Evaluating Oral LUM-201 in Idiopathic PGHD

OraGrowtH212 Trial: PK/PD Trial in Idiopathic PGHD: Enrollment Completed

OraGrowtH212 TRIAL

- n = 22
- Open-label study
- Idiopathic PGHD patients
- rhGH-treatment naïve
- Dosing to near-adult height
- Single, specialized clinical site
- Q10 minute GH sampling for 12 hours

Interim Data Analysis (**n** =10) – at **6 months** on therapy
Primary Outcome Data (**n** = 22) – at **6 months** on therapy
Total Study Duration – subjects on therapy to near adult height



Objectives

Primary 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

Primary outcome data on 22 subjects anticipated 4Q 2023
Interim AHV and safety data on 10 subjects announced November 2022

PK/PD = Pharmacokinetic / Pharmacodynamic

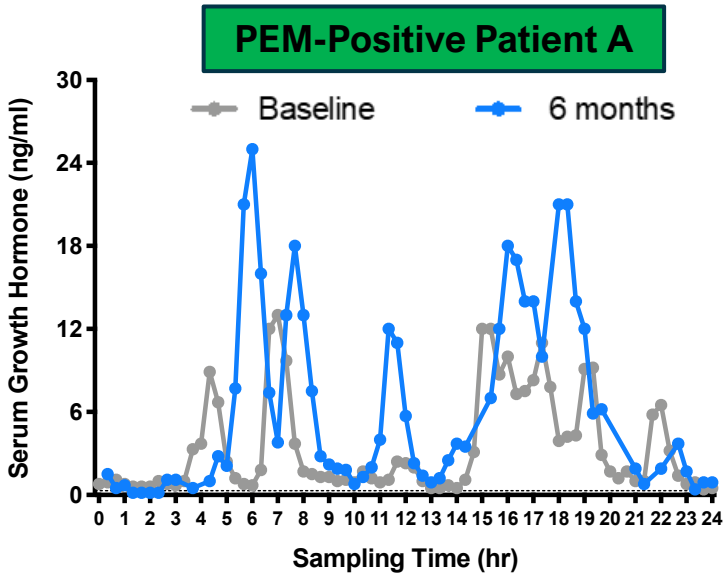
Prior PK/PD Data Show LUM-201 Pulsatile MOA & Potential Efficacy in PGHD Patients

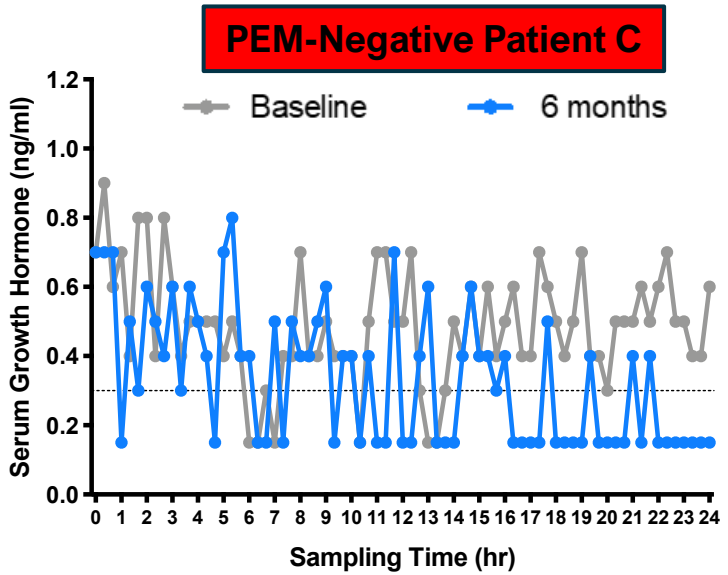
From the Merck 020 Trial[1]

PGHD patients administered 0.8 mg/kg/day LUM-201 for 6 months

		PEM Positive				PEM Negative	
		Patient A		Patient B		Patient C	
		Baseline	6months	Baseline	6months	Baseline	6months
	IGF-1 (ng/ml)	182	231	53	72	17	15
Q20m 24h GH	Mean (ng/ml)	3.4	6.3	1.0	1.3	0.5	0.3
	AUC (ng*hr/ml)	75.5	137.3	17.6	25.0	4.9	3.4
	Height Velocity (cm/yr)	3.7	7.9	3.5	8.9	1.1	1.8

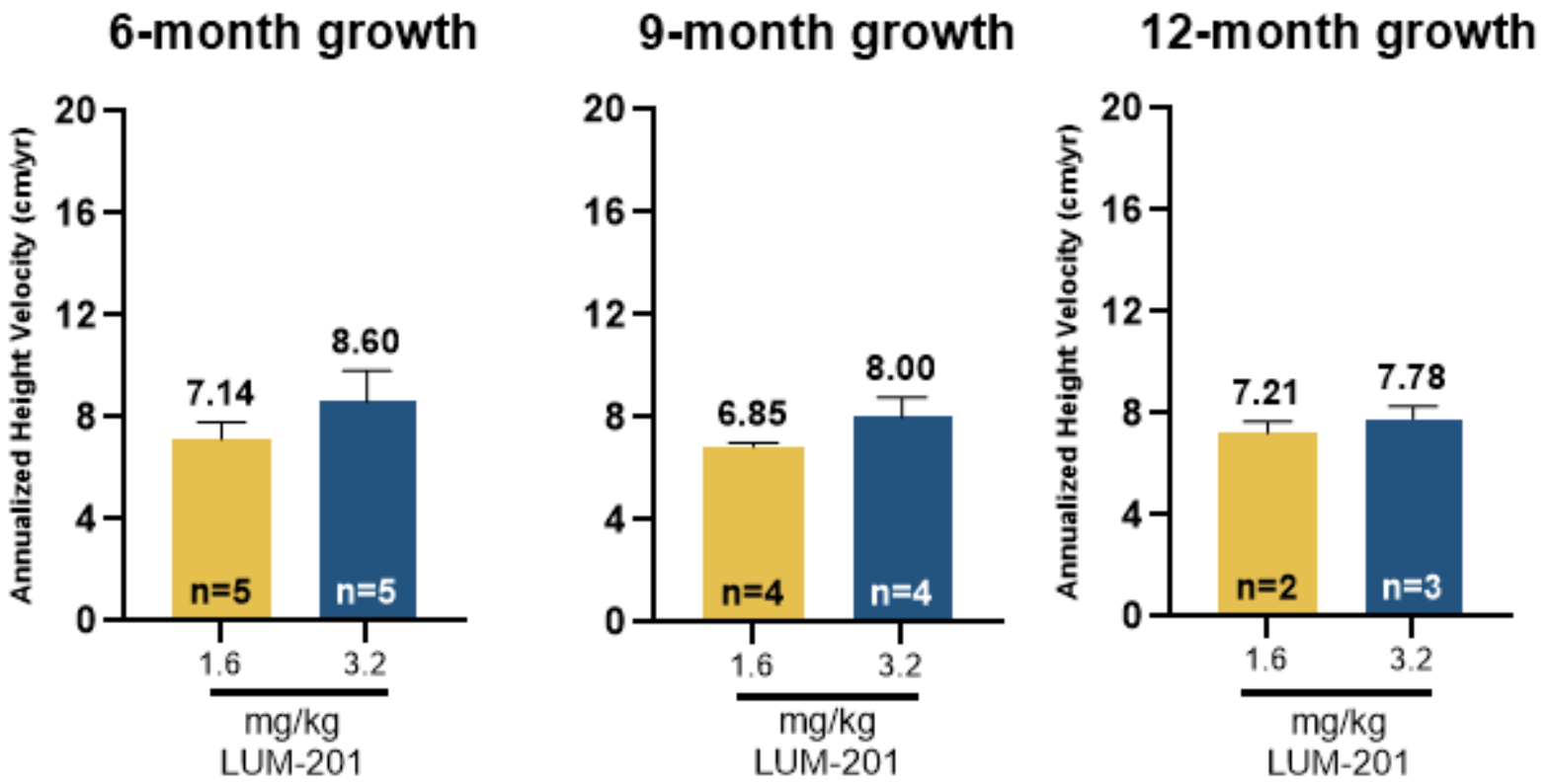
LUM-201 substantially increased GH secretion & height velocity in PEM+ PGHD patients at 6 months on LUM-201





[1] Merck Study 020 patient subset. Cassorla, F.

OraGrowtH212 Interim Data Demonstrate Durable Response

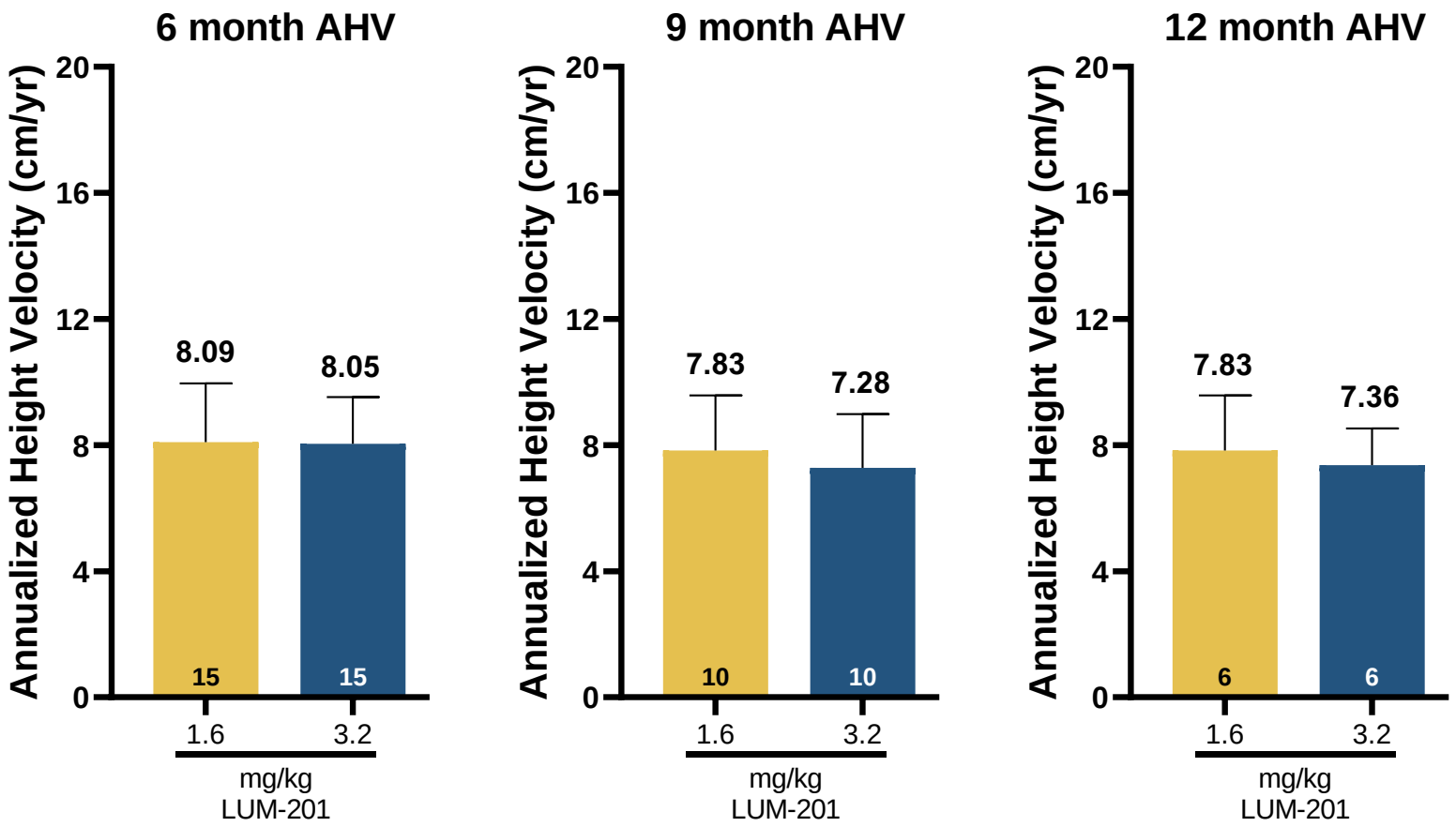


Conclusions

- OraGrowth212 data also demonstrate growth is durable out to 12 months
- This separate study supports the narrowing of the AHV difference seen in the 210 trial as subjects approach 12 months on treatment
- A Phase 3 non-inferiority trial is expected to be a 12-month study in a much larger population

OraGrowtH210 & OraGrowtH212 Interim Data Combined

Annualized Height Velocity for LUM-201
Combined Data from OraGrowtH210 & OraGrowtH212 Trials



Conclusions

- Post-hoc analysis of combined interim data conducted to determine optimal dose for Phase 3
- Comparable mean AHVs for top 2 LUM-201 doses seen at 6, 9, and 12 months
- Combined interim data supports selection of 1.6 mg/kg/day dose for pivotal Phase 3 trial

Safety and Tolerability

Safety Profile at Interim Analysis for OraGrowtH210 Trial

66 subjects randomized to date with safety data available for 58 subjects at interim analysis

	0.8 mg/kg	1.6 mg/kg	3.2 mg/kg	ALL LUM-201	rhGH 34 mcg/kg
N =	**14**	**15**	**14**	**43**	**15**
Number of AEs	31	45	38	114	21
Subjects with AE (%)	8 (57.1%)	13 (86.7%)	9 (64.3%)	30 (69.8%)	9 (60.0%)
Treatment Related AEs (N)	2	1	3	6	3
Subjects with Treatment Related AEs (%)	1 (7.1%)	1 (6.7%)	2 (14.3%)	4 (9.3%)	2 (13.3%)
Subjects with SAEs (%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Interim Safety and Tolerability Profile

- We believe LUM-201 will demonstrate a favorable safety profile as data from both OraGrowtH trials to date show comparable safety and tolerability to the rhGH subjects in the trials.

- **No meaningful safety signals to date**
  - In laboratory values
  - In Adverse Event (AEs) data
  - In ECGs values

Interim OraGrowtH Trials Analysis: LUM-201 Met Expectations in Idiopathic PGHD

Expected annualized height velocity (AHV) was met

- AHV of 8.6 cm at 6-months on 1.6 mg/kg/day LUM-201, in line with 8.3 cm expected in PEM+ PGHD

Durability of growth response was observed at 9 and 12 months

- LUM-201 AHVs are sustained & converge with rhGH AHVs at 12-month treatment interval

Interim safety and tolerability profile

- No treatment related SAEs, no trial dropouts due to AEs, and no meaningful safety signal

Evidence of a dose response & Phase 3 dose identified

- Interim safety and efficacy data support selection of 1.6 mg/kg/day for Phase 3

Data support potential for oral LUM-201 to disrupt injectable PGHD market

- ~$3.4 billion worldwide GHD market treated by injectable rhGH primed for conversion to oral therapy

SAEs = Serious adverse events AEs = Adverse events

LUM-201: Exclusivity and Barriers with Orphan Designation and IP

Orphan Drug Designation	• **Orphan Drug Designation (ODD)** granted in US & EU for GHD in 2017 • LUM-201 eligible for 12 years of exclusivity in EU and 7.5 years of exclusivity in US* • Plan to seek Orphan Drug Designation in Japan
Intellectual Property	• **Patent granted for "Detecting & Treating GHD"** • Use of LUM-201 in PGHD and other GHD indications based on PEM strategy • Patents for LUM-201 in GHD with **protection through 2036** • Patents granted in US, Australia, EU, Israel, Japan, S. Korea, Hong Kong and Ukraine • Additional applications pending in multiple jurisdictions • Applications for LUM-201 in NAFLD being prosecuted in multiple jurisdictions
New Patent Filing	• Patent filed November 2022 for novel LUM-201 formulation • If granted, **Composition of Matter IP protection would be provided through 2042**

* ODD exclusivity from date of drug approval with potential pediatric extensions GHD = Growth Hormone Deficiency NAFLD = Non-alcoholic Fatty Liver Disease

Financials

Lumos Pharma Financial Information as of December 31, 2022

Values in USD

Cash	$67.4M
Debt	$0
Shares Outstanding	8.3M
Cash Use per Quarter in 2023	$9.5-$10.5M
Fiscal Year End	December 31

Nasdaq LUMO

Cash balance to support current operations into 3Q 2024,
Beyond primary outcome data readouts for OraGrowtH210 and OraGrowtH212 Trials 4Q 2023

Conclusions

Investment Highlights

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 • **Potential to disrupt** significant subset of sizable **injectable market** for GHD
Pipeline in a Product	• Worldwide injectable market for GHD disorders is **$3.4 billion*** • Market for initial oral LUM-201 indication, Pediatric GHD (PGHD), is **$1.2 billion*** • Prior data support potential efficacy of LUM-201 in multiple GHD disorders
Late-stage Trials in PGHD	• **Enrollment completed** for Phase 2 OraGrowtH210 and PK/PD OraGrowtH212 Trials • **Primary outcome data** expected **4Q 2023** • Interim data showed LUM-201 met growth expectations • Enriched patient population **de-risks** clinical program as all subjects randomized demonstrate a response to LUM-201 in stimulation test
Solid Financial Position	• Cash balance of **$67.4 million** as of close of **4Q 2022** • Cash runway **into 3Q 2024,** beyond OraGrowtH210 & OraGrowtH212 primary outcome data

PGHD = Pediatric Growth Hormone Deficiency

* USA, Germany, France, Italy, Spain, UK, Japan (Grandview Research, Growth Hormone Market Forecast, 2019)

Interim Analysis
Supplementary Materials

Ranke Model is the Gold Standard in Growth Prediction for GHD

PHV = 14.55 + [-1.37 X (ln max GH stim)] + (-0.32 X Age) + (0.32 X BWt SDS) + (-0.5457) + (-0.4 X HtSDS-MPH SDS) + (0.29 X Wt SDS)

• Parameter Rank 1st	[-1.37 X (ln max GH stim)]	A measure of how GHD subject is by stim test value
• Parameter Rank 2nd	(-0.32 X Age)	Age at treatment start is a very important predictor
• Parameter Rank 6th	(0.32 X BWt SDS)	Birth weight SDS
• Parameter Rank 5th	(-0.5457)	Dose of rhGH (constant for this trial)
• Parameter Rank 3rd	(-0.4 X HtSDS-MPH SDS)	Measure of how far away from their target height
• Parameter Rank 4th	(0.29 X Wt SDS)	Body weight at start of treatment

- The model was developed based on mining the KIGS data set of rhGH PGHD treatment data
  - Phase 4 database for Genotropin N= 593 when model developed
  - Developed models to predict 1st, 2nd, 3rd, 4th year growth

Growth for both rhGH and LUM-201 1.6 mg/kg cohorts was predicted using Ranke models

Ranke et al JCEM 1999 | PHV = Predictive Height Velocity | Age = Baseline Age | BWt = Birth Weight | Wt = Weight at Start of Treatment | SDS = Standard Deviation Score

Specific AEs – No meaningful signal

66 subjects randomized to date with safety data available for 58 subjects at interim analysis

	0.8 N=14	1.6 N=15	3.2 N=14	ALL N=43	rhGH N=15
Arthralgia	1 (7.1%)	2 (13.3%)	2 (14.3%)	5 (11.6%)	1 (6.7%)
Myalgia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (20.0%)
Headache	2 (14.3%)	3 (20.0%)	2 (14.3%)	7 (16.3%)	2 (13.3%)
Lethargy	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Abd. pain	0 (0.0%)	0 (0.0%)	2 (14.3%)	2 (4.7%)	0 (0.0%)
Emesis	1 (7.1%)	1 (6.7%)	1 (7.1%)	3 (7.0%)	1 (6.7%)
Inc. appetite	1 (7.1%)	1 (6.7%)	0 (0.0%)	2 (4.7%)	2 (13.3%)
Hypoglycemia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Orophary. pain	1 (7.1%)	1 (6.7%)	0 (0.0%)	2 (4.7%)	1 (6.7%)

Laboratory Shifts: No meaningful signal

*66 subjects randomized to date with safety data available for 58 subjects at interim analysis**

	0.8 mg/kg N=14	1.6 mg/kg N=15	3.2 mg/kg N=14	ALL N=43	rhGH N=15
ALT Nl to high	2/12 (16.7%)	1/15 (6.7%)	2/12 (16.7%)	5/39 (12.8%)	5/12 (41.7%)
TAP Nl to high	1/12 (8.3%)	0/15 (0.0%)	1/12 (8.3%)	2/39 (5.1%)	5/12 (41.7%)
Bili Nl to high	0/13 (0.0%)	0/15 (0.0%)	0/13 (0.0%)	0/41 (0.0%)	0/15 (0%)
Creat. Nl to high	0/13 (0.0%)	0/15 (0.0%)	0/13 (0.0%)	0/43 (0.0%)	0/12 (0%)
Gluc Nl to high	0/13 (0.0%)	3/15 (20.0%)	1/13 (7.7%)	4/41 (9.8%)	1/12 (8.3%)
Phos. Nl to high	3/13 (23.1%)	2/15 (13.3%)	3/13 (23.1%)	8/41 (19.5%)	5/12 (41.7%)
Eos Nl to high	2/11 (18.2%)	3/15 (20.0 %)	2/13 (15.4%)	7/39 (17.9%)	3/12 (25.0%)
Gran. Nl to low	1/11 (9.1%)	3/15 (20.0%)	4/13 (30.8%)**	8/39 (20.5%)	1/12 (8.3%)
Gran. Nl to high	0/11 (0.0%)	1/15 (6.7%)	2/13 (15.4%)**	3/39 (7.7%)	0/12 (0%)

* Percentages calculated based on subjects with both baseline and post-baseline assay data

** Bidirectional shifts diminish any concern

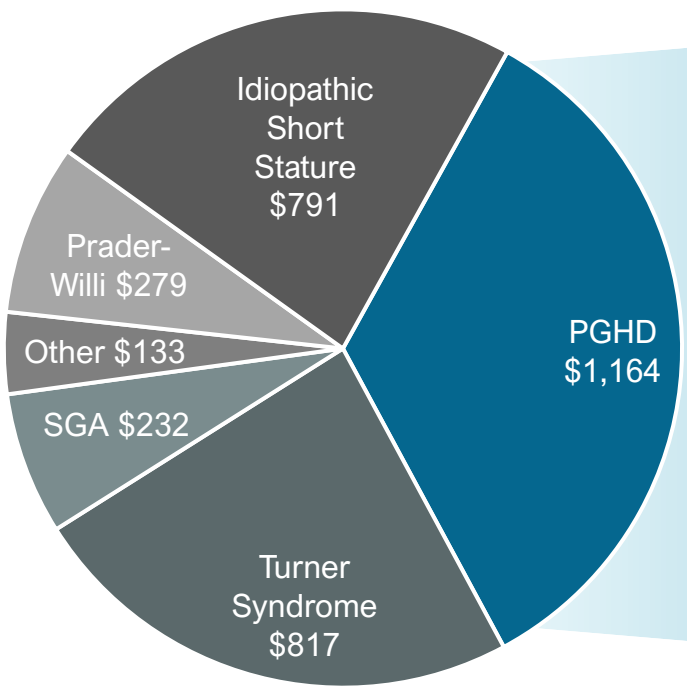
Baseline Characteristics for Top Dose Cohorts in 210 and 212 Studies

	210 1.6 mg/kg N=10	210 3.2 mg/kg N=10	212 1.6 mg/kg N=5	212 3.2 mg/kg N=5
Age (Mos)	99.3	96.1	93.6	91.0
Height SDS	-2.35	-2.30	-1.99	-2.26
IGF-1 SDS	-1.17	-1.39	-1.11	-0.83
Delta MPH	1.76	1.96	0.57	0.70
BA delay yr	1.91	2.19	1.59	1.96
BMI SDS	-0.35	-0.70	0.05	0.66
AHV @ 6 Mos	8.57	7.77	7.14	8.60

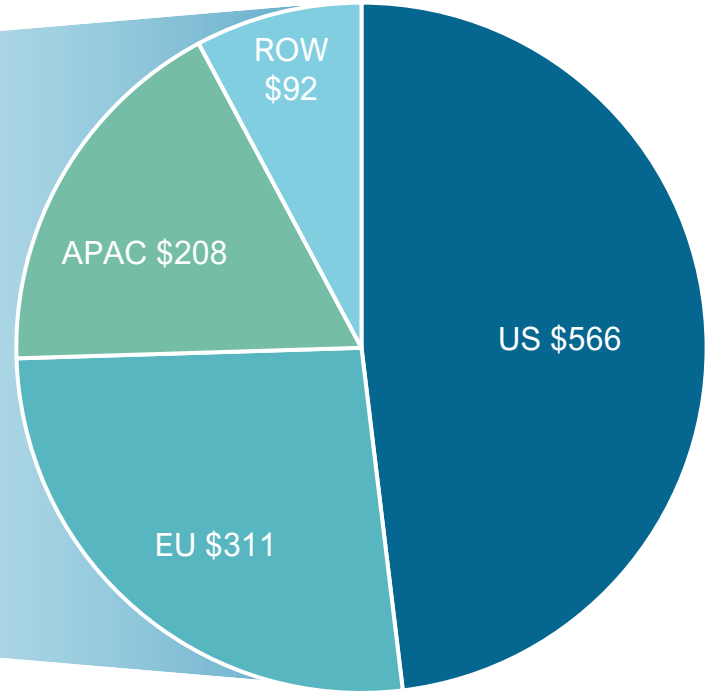
Additional Supplementary Materials

PGHD is ~35% of the $3.4B Pediatric Recombinant Growth Hormone Market

2018 Global rhGH Sales $3.4B*
(Values below in $millions)



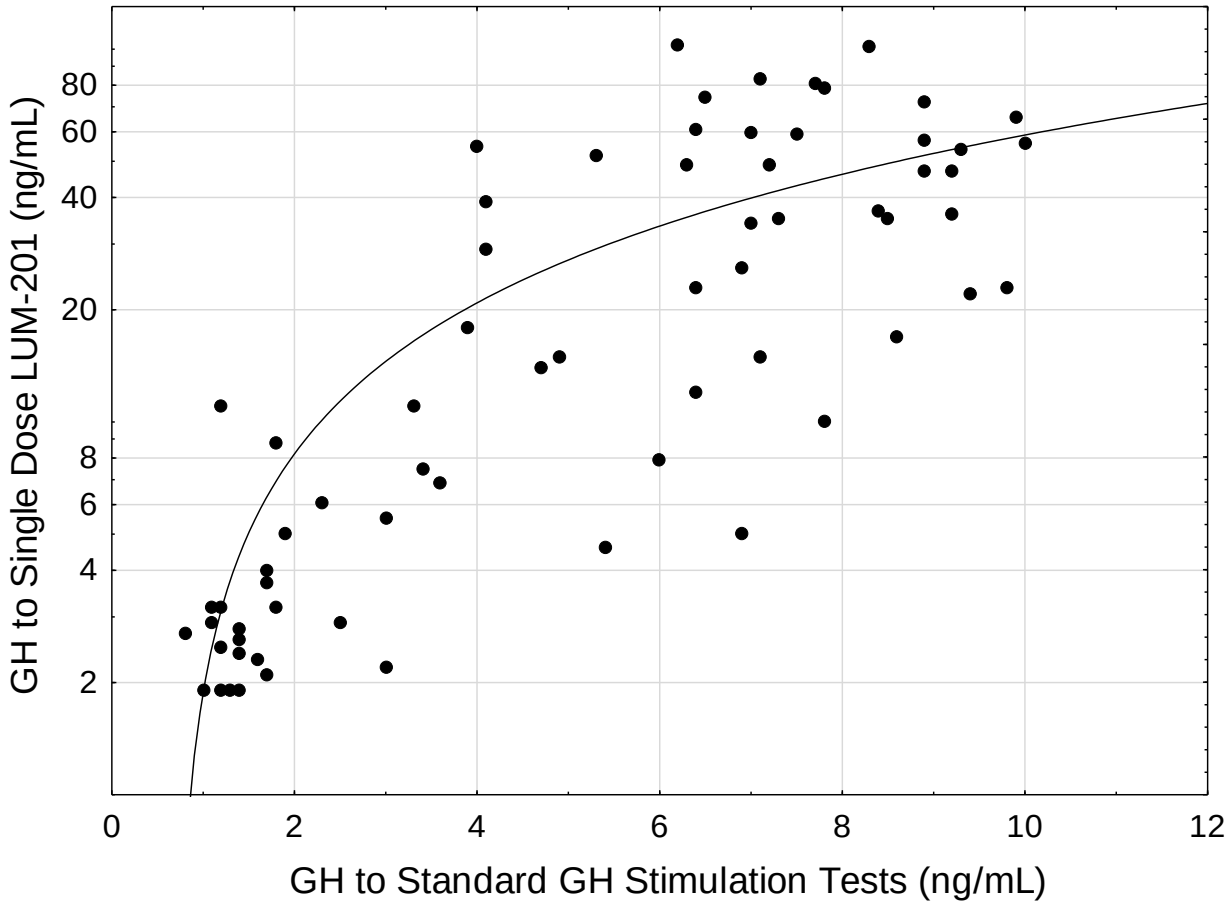
2018 Sales of rhGH for PGHD $1.2B*
(Values below in $millions)



- Pediatric rhGH market projected to grow ~8% per year*
- Well characterized market with established reimbursement mechanisms
- Current SOC consists of daily injectables; expected to convert to weekly injectables
- **Pediatric rhGH market appears primed for conversion to oral therapy**

*Grandview Research, hGH Market, 2018, excludes Adult Growth Hormone Deficiency

More GH Released from LUM-201 Stim than from Standard Stim Test Agents



68 children with growth hormone deficiency

All had 2 standard GH stimulation tests

- Standard test agents: arginine, clonidine, l-dopa, glucagon, insulin

All had a single dose of LUM-201 stim test

Data presented at the 2021 Annual Meeting of The Endocrine Society and published online in the journal, Hormone Research in Paediatrics, March 2022

Study of Oral LUM-201 in Non-Alcoholic Fatty Liver Disease (NAFLD)
Mass General Investigator-Initiated Phase 2 Pilot Trial

lumos PHARMA

MGH Initiated Phase 2 Pilot Trial[#]

- n = 10
- Adult NAFLD subjects with relative GH/IGF-1 deficiency
- Open-label
- Single-site pilot study
- 6-month dosing

Currently enrolling subjects

Study Duration – 6 months

n = 10 – LUM-201 at dose level of 25 mg/day

Objectives

Primary Objective:

- Determine changes in intra-hepatic lipid content, inflammation, and potentially fibrosis resulting from LUM-201 induced GH augmentation compared to historical placebo-treated controls

Massachusetts General Hospital (MGH) initiated pilot study of oral LUM-201 in NAFLD: Enrollment ongoing

Principal Investigator: Laura Dichtel, MD, Assistant Professor, Massachusetts General Hospital

LUM-201 Deal Terms

Partner	Upfront Payment	Development Milestones*	Sales Milestones* Worldwide	Sales Royalties, Combined
Ammonett	$3.5M	$17M first indication $14M second indication	$55M	10% to 12%, subject to standard generic erosion reductions
Merck	N/A	$14M first indication $8.5M second indication	$80M	

*Milestone figures are maximum, may be less depending on development stage achieved and total net sales up to $1B