First Quarter 2023 Financial Results & Clinical Update

May 3, 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 therapeutics that are safe, efficacious, and offer a 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, 2022, 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. 5.3.2023

Agenda

Welcome

- Lisa Miller, *Senior Director of Investor Relations*

Review of Highlights & Clinical Development Program

- Rick Hawkins, *Chief Executive Officer & Chairman*

Financial Results

- Lori Lawley, *Chief Financial Officer*

Questions & Answers

- Rick Hawkins, *Chief Executive Officer & Chairman*
- John McKew, PhD, *President & Chief Scientific Officer*
- David B. Karpf, MD, *Chief Medical Officer*
- Lori Lawley, *Chief Financial Officer*

OraGrowtH210 Trial Baseline Characteristics at 50% & 100% Enrollment

	At 50% enrollment			At 100% enrollment*	
	LUM-201 1.6 mg Mean (SD) N=10	**rhGH** Mean (SD) N=10		**LUM-201 1.6 mg** Mean (SD) N=22	**rhGH** Mean (SD) N=20
Age (months)	99.3 (28.3)	90.3 (26.7)		95.2 (27.3)	91.4 (23.3)
Height (cm)	114.6 (9.6)	111.6 (11.9)		113.0 (11.0)	112.3 (10.5)
Height SDS	-2.35 (0.62)	-2.29 (0.43)		-2.42 (0.68)	-2.23 (0.41)
IGF-1 SDS	-1.17 (0.72)	-1.37 (0.48)		-1.40 (0.57)	-1.39 (0.47)
MPH (cm)	166.98 (7.15)	168.78 (8.85)		165.4 (7.4)	169.1 (8.26)
MPH SDS Δ	1.76 (0.60)	1.76 (0.73)		1.69 (0.81)	1.91 (0.65)
BA Delay (yrs)	1.9 (0.5)	1.8 (1.0)		1.8 (0.9)	1.9 (0.9)
BMI SDS[1]	-0.35 (0.79)	+0.31 (1.05)		-0.27 (0.90)	+0.01 (0.95)

Imbalance between LUM-201 & rhGH arms narrows at full enrollment, which we expect will diminish the rhGH outlier impact

* Preliminary assessment [1] Yang, et al. Nature Sci Rep 2019, 9(1); 16181

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

Additional Highlights: International Meeting of Pediatric Endocrinologists (IMPE)

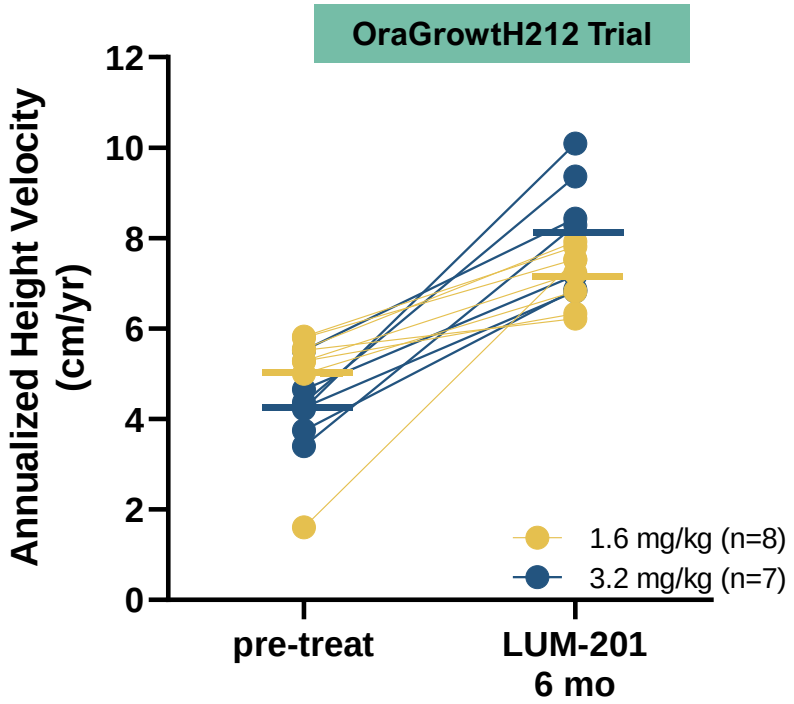
Oral Presentation:

- *Dose-dependent Increase in GH $AUC_{0\text{-}12h}$ with LUM-201 in Idiopathic Pediatric GH Deficiency (iPGHD) from the Interim Analysis Data of the OraGrowtH212 Trial,* Cassorla, F.

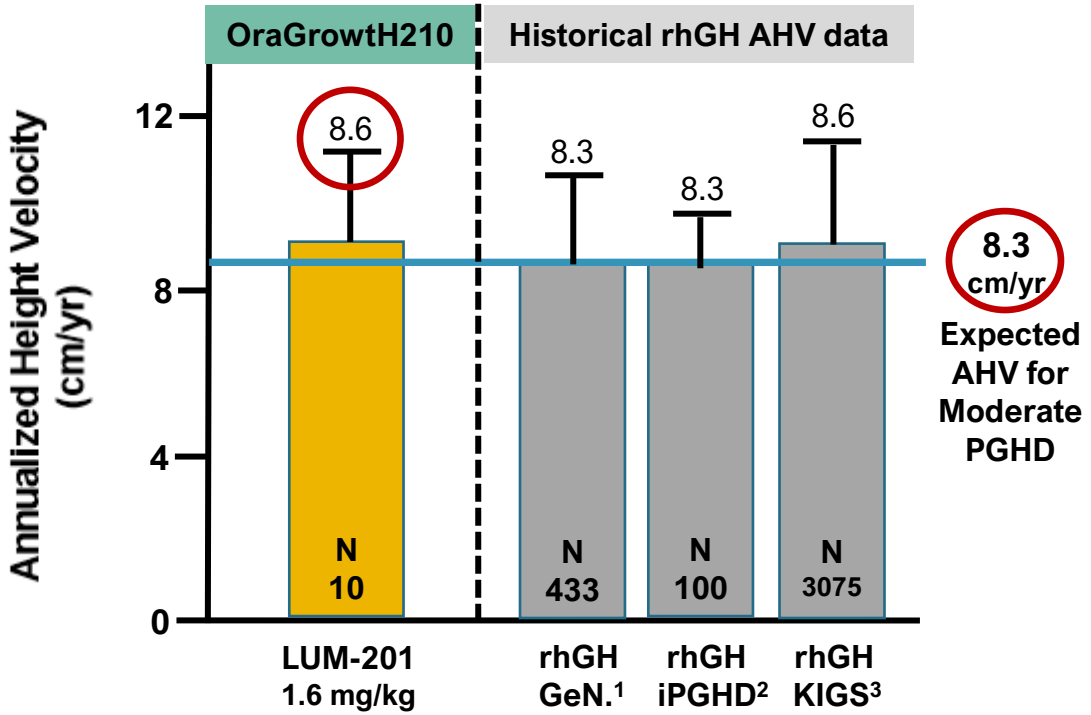
Poster Presentation:

- *Baseline Demographics of the OraGrowtH210 Trial Studying LUM-201 in Idiopathic Pediatric Growth Hormone Deficiency (iPGHD) Interim Analysis Data*, Lunsford, A.

LUM-201 raised Annualized Height Velocity from baseline after 6 months on therapy



LUM-201 1.6 mg/kg/day cohort grew 8.6 cm/year, in line with the expected rate of ~ 8.3 cm/year for moderate idiopathic PGHD patients from multiple historical datasets



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

Additional Highlights

Pediatric Endocrine Society (PES) 2023 Presentations

- Oral Presentation: *Growth Response to LUM-201 in the OraGrowthH210 Trial in Idiopathic Pediatric Growth Hormone Deficiency (iPGHD): Interim Analysis Data (41 Subjects),* Dauber, A.
- Poster Presentation: *Observed IGF-1 Serum Concentration Increase Within Normal Range After Prolonged Daily Oral LUM-201 Administration in Idiopathic Pediatric Growth Hormone Deficiency from the OraGrowthH212 Trial: Interim Analysis Data*, Cassorla, F.

Massachusetts General initiated NAFLD pilot trial ongoing

- LUM-201 in NAFLD – pilot trial continues to enroll

LUM-201 novel formulation patent filed

- If granted, novel formulation patent would offer LUM-201 protection into Q4 2042, beyond current IP protection to 2036 and additional Orphan Drug Designation protection from time of drug approval

Next target indications narrowed for LUM-201

- Narrowed next indication targets for LUM-201 to ISS and PWS with analysis continuing

ISS Idiopathic Short Stature PWS Prader-Willi Syndrome

Lumos Pharma Financial Information as of March 31, 2023

Values in USD

Cash, equivalents & short-term investments	$58.0M
Debt	$0
Shares Outstanding	8.2M
Cash Use per Quarter in 2023	$9.5-$10.5M
Fiscal Year End	December 31

Cash, cash equivalents, and short-term investments to support operations into 3Q 2024, beyond primary outcome data readouts for OraGrowtH210 and OraGrowtH212 Trials 4Q 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 **$58.0 million** as of close of **1Q 2023** • 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)