Lumos Pharma Announces Encouraging Interim Results from Two Phase 2 Trials Evaluating Oral LUM-201 for Moderate Pediatric Growth Hormone Deficiency

November 14, 2022

- LUM-201, potentially the first oral medication for PGHD, met expectations in an interim analysis of two Phase 2 trials evaluating growth in Pediatric Growth Hormone Deficiency (PGHD) -

- Interim results for approximately 50% enrollment (n=41) of OraGrowtH210 Trial demonstrated a mean annualized height velocity (AHV) of 8.6 cm at six months for 1.6 mg/kg/day LUM-201, in line with 8.3 cm AHV expected from historical database comparisons -

- These data further de-risk clinical program and support selection of 1.6 mg/kg/day LUM-201 dose for pivotal Phase 3 trial -

- OraGrowtH210 Trial is now ~80% enrolled, and the Company continues to anticipate primary outcome readout with all 80 subjects at six months in 2H 2023 -

- KOL event planned for December 6, 2022 -

- Conference call today, November 14, 2022 at 8:30AM ET -

AUSTIN, Texas, Nov. 14, 2022 (GLOBE NEWSWIRE) -- Lumos Pharma, Inc. (NASDAQ:LUMO), today announced that interim results met expectations for its Phase 2 OraGrowtH210 Trial and Phase 2 Pharmacokinetic/Pharmacodynamic (PK/PD) OraGrowtH212 Trial evaluating oral LUM-201 for subjects with moderate (idiopathic) pediatric growth hormone deficiency (PGHD) who screened PEM-positive utilizing Lumos's predictive enrichment marker (PEM) strategy.

"We are elated that our candidate for the first oral therapeutic for treatment of PGHD, LUM-201, performed as predicted in these moderate (idiopathic) PEM-positive PGHD subjects," said Rick Hawkins, Chairman and CEO of Lumos Pharma. "The observed annualized height velocity of 8.6 cm at 6 months on the 1.6 mg/kg dose of LUM-201 was in line with our prediction of 8.3 cm, which was observed in the PEM-positive moderate naïve-to-treatment PGHD subjects identified from Eli Lilly's large Phase 4 rhGH historical database known as GeNeSIS. These data support advanced planning for a pivotal Phase 3 trial. Additionally, our robust enrollment trends with the OraGrowtH210 Trial now at 80% enrolled, keep us well on track with our previously stated goal of announcing full results from this trial and the OraGrowtH212 Trial in the second half of 2023."

OraGrowtH210 Interim Analysis Highlights at 6 Months
The OraGrowtH210 Trial is a multi-site, global trial evaluating orally administered LUM-201 at three dose levels (0.8, 1.6, 3.2 mg/kg/day) compared to a standard dose of injectable recombinant human growth hormone (rhGH) 34 µg/kg/day in approximately 80 naïve-to-treatment subjects diagnosed with moderate (idiopathic) PGHD. The trial population was enriched for subjects known to be responsive to LUM-201 during screening by applying the specific PEM cutoffs of a baseline IGF-1 value > 30 ng/ml and a peak growth hormone value of ≥ 5 ng/ml after administering a single dose of 0.8 mg/kg of LUM-201 to treatment-naïve PGHD patients.

The interim analysis was performed after 41 subjects, randomized into four treatment arms of approximately ten subjects, completed six months of treatment. The 6-month annualized height velocity (AHV) on 1.6 mg/kg/day LUM-201 met our expectations for growth. The mean (median)* AHV at six months is shown below for each of the four treatment arms:

- 7.26 (7.71) cm/year in the 0.8 mg/kg/day LUM-201 arm (n=11)
- 8.57 (8.61) cm/year in the 1.6 mg/kg/day LUM-201 arm (n=10)
- 7.77 (8.11) cm/year in the 3.2 mg/kg/day LUM-201 arm (n=10)
- 11.05 (10.48) cm/year in the rhGH arm (n=10)

The mean AHV of 8.6 cm/year at six months observed in the 1.6mg/kg dose arm was in line with the Company's expectations for 8.3 cm/year AHV, which was observed after 12 months of recombinant growth hormone (rhGH) treatment in a moderate naïve-to-treatment PGHD patient population derived from the large 20-year Phase 4 Eli Lilly GeNeSIS database.[1] This was also comparable to the first-year height velocity observed for similar moderate PGHD subjects treated with rhGH in three other large historical databases.[2,3,4]

This unexpected growth was likely due both to the presence of two of the youngest subjects in the rhGH cohort known to show a robust growth response (15.6 and 12.7 cm/yr) and to other imbalances in several baseline characteristics also documented as predictors of greater growth response to rhGH.[1,3,5] The higher than anticipated AHV seen in this moderate PGHD population treated in the rhGH control arm was inconsistent with multiple historical trials in similarly characterized populations, which predicted growth in the 8.3-8.6 cm / year range[1-4]. Baseline characteristics other than age which are predictive of greater growth on therapy include: height (shorter stature), lower height and IGF-1 standard deviation scores (SDS), greater distance from mid-parental height (MPH), and higher body mass index standard deviation score (BMI SDS). Additionally, there was an outlier in the rhGH arm whose AHV was 15.6 cm. The imbalanced baseline parameters of the 1.6 mg/kg LUM-201 arm compared to the rhGH arm are shown in the table below:

Imbalances in Five Baseline Parameters are Predictive of Higher Growth in the rhGH Arm:

Baseline metrics	**1.6 mg LUM-201** Mean (SD) N=10	**rhGH** Mean (SD) N=10
Age in months	99.3 (28.3)	90.3 (26.7)
Height in cm	114.6 (9.6)	111.6 (11.9)
Height SDS	-2.35 (0.62)	-2.29 (0.43)
IGF-1 SDS	-1.17 (0.72)	-1.37 (0.48)
MPH in cm	166.98 (7.15)	168.78 (8.85)
BMI SDS	-0.35 (0.79)	+0.31 (1.05)

We believe the imbalance in age will even out as enrollment progresses since age is a stratification factor. As mentioned earlier, two of the three subjects under five years are in the rhGH cohort and are growth outliers. To date, older subjects are being randomized to the rhGH treatment arm based on the age stratification which would predict a slower growth response to rhGH treatment. With higher enrollment, we believe the imbalance of predictors favoring faster growth is likely to resolve, resulting in greater balance across all cohorts.

OraGrowtH210 Interim Analysis Highlights at Nine and 12 Months
The nine and 12-month interim data available for a subset of the subjects demonstrated the durability of the growth response for LUM-201 at these later treatment intervals, albeit with a smaller number of subjects. The decline in the AHV rate for the rhGH arm was more pronounced over time (11.05 cm/yr at 6 months to 9.93 cm/yr at 12 months) compared to the LUM-201 1.6 mg/kg arm (8.57 cm/yr at six months to 8.14 cm/yr at 12 months).

LUM-201 Demonstrates Durable Growth Rates Out to 12 Months:

OraGrowtH210 AHV	**6 months**		**9 months**		**12 months**	
	cm/year	n	cm/year	N	cm/year	n
0.8 mg/kg/day LUM-201	7.26	11	6.17	5	6.74	4
1.6 mg/kg/day LUM-201	8.57	10	8.48	6	8.14	4
3.2 mg/kg/day LUM-201	7.77	10	6.80	6	6.94	3
34 µg/kg/day rhGH	11.05	10	10.46	7	9.93	4

Recent prior 12-month registration trials for other growth hormone products used a non-inferiority margin of 1.8-2 cm in AHV between the treatment and rhGH arms.

OraGrowtH212 Interim Analysis Highlights
The OraGrowtH212 Trial is a single site, open-label trial evaluating the pharmacokinetic (PK) and pharmacodynamic (PD) effects of oral LUM-201 in up to 24 treatment-naïve PGHD subjects at two dose levels, 1.6 and 3.2 mg/kg/day. Every subject in the OraGrowtH212 Trial was PEM-positive and, therefore, enriched for responsiveness to LUM-201.

The interim analysis of the OraGrowtH212 Trial was performed after ten subjects randomized to one of two LUM-201 treatment arms had completed six months of treatment. The AHV for each arm was comparable to that observed in the OraGrowtH210 Trial. The data also demonstrate the growth is durable out to 12 months, albeit in a more limited number of subjects. This separate study also supports the narrowing of the AHV difference between LUM-201 and rhGH seen in the OraGrowtH210 Trial as subjects approach 12 months on treatment.

LUM-201 in OraGrowtH212 Demonstrates Comparable Growth Rates to OraGrowtH210:

OraGrowtH212	**6 months**		**9 months**		**12 months**	
	cm/year	n	cm/year	n	cm/year	n
1.6 mg/kg/day LUM-201	7.14	5	6.85	4	7.21	2
3.2 mg/kg/day LUM-201	8.60	5	8.00	4	7.78	3

Safety & Tolerability Highlights
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. There were no treatment-related Serious Adverse Events (SAEs), no drop-outs due to SAE's and no meaningful safety signals observed in either laboratory values, adverse event data, or in electrocardiogram values. The safety data for the OraGrowtH212 Trial is consistent with the data in the OraGrowtH210 Trial.

** Median can be more informative with smaller subject numbers where the mean is distorted by outliers*
[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, [5] Yang et.al. Nature Sci Rep 2019

Conference Call and Webcast Details

Date: November 14, 2022
Time: 8:30 AM ET
Dial-in information: 1-877-407-9716 (U.S.); 1-201-493-6779 (International)
Conference ID: 13733665

Webcast link: https://viavid.webcasts.com/starthere.jsp?ei=1576942&tp_key=000b578e33

Slides will be available at the start of the call through the Lumos Pharma website in the "Investors & Media" section under "Events and Presentations" link: https://investors.lumos-pharma.com/events-presentations.

A replay of the call will be available approximately two hours after the completion of the call and can be accessed by using the same numbers as above for two weeks following the call.

Virtual KOL Event Planned

The Company plans to host a virtual KOL Event on December 6th to discuss interim results from OraGrowthH210 and OraGrowthH212 trials in greater detail and provide updates on clinical and corporate strategy. Management will be joined by two esteemed thought leaders in the field of endocrinology:

Andrew Dauber, MD, Chief of Endocrinology at Children's National Medical Center, Washington, D.C.
Fernando Cassorla, MD, Chief of Pediatric Endocrinology at the Institute of Maternal and Child Research, University of Chile

Access information regarding the KOL Event will be provided at a later date.

About Lumos Pharma

Lumos Pharma, Inc. is a clinical stage biopharmaceutical company focused on the development and commercialization of therapeutics for rare diseases. Lumos Pharma was founded and is led by a management team with longstanding experience in rare disease drug development and received early funding from leading healthcare investors, including Deerfield Management, a fund managed by Blackstone Life Sciences, Roche Venture Fund, New Enterprise Associates (NEA), Santé Ventures, and UCB. Lumos Pharma's lead therapeutic candidate is LUM-201, an oral growth hormone stimulating small molecule, currently being evaluated in a Phase 2 clinical trial, the OraGrowthH210 Trial; a PK/PD trial, the OraGrowthH212 Trial; and a switch trial, the OraGrowthH213 Trial for the treatment of Pediatric Growth Hormone Deficiency (PGHD). If approved by the FDA, LUM-201 would provide an orally administered alternative to recombinant growth hormone injections that PGHD patients otherwise endure for many years of treatment. LUM-201 has received Orphan Drug Designation in both the US and EU. For more information, please visit https://lumos-pharma.com/.

Cautionary Note Regarding Forward-Looking Statements

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

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

We have attempted to identify forward-looking statements by using words such as "projected," "upcoming," "will," "would," "plan," "intend," "anticipate," "approximate," "expect," "potential," "imminent," and similar references to future periods or the negative of these terms. Not all forward-looking statements contain these identifying words. Examples of forward-looking statements include, among others, statements we make regarding the encouraging growth response in our LUM-201 trials, interim data further de-risking the program, the imbalance of predictors in the control arm being expected to resolve and that the imbalance will even out as the enrollment process progresses, progress in our clinical efforts including comments concerning screening and enrollment for our trials, expecting the primary outcome data readout for our trials anticipated developments in our trials, the potential to expand our LUM-201 platform into other indications, anticipated market reception to our treatment regimen for PGHD and other indications, plans related to initiation and execution of clinical trials; plans related to moving additional indications into clinical development; future financial performance, results of operations, cash position and sufficiency of capital resources to fund our operating requirements through the primary outcome data readout from the OraGrowthH210 and OraGrowthH212 Trials, our belief that LUM-201 will demonstrate a favorable safety profile 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. Forward-looking statements contained in this announcement are made as of this date and Lumos undertakes no duty to update such information except as required under applicable law. 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 final results of our LUM-201 Trials being different than our interim results, the effects of pandemics, other widespread health problems or 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 and maintain 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 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, 2021, as well as other reports filed with the SEC including our most recent Quarterly Report on Form 10-Q for the quarter ended September 30, 2022. 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 press release.

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