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Ocuphire Announces Positive Topline Results from LYNX-1 Phase 3 Trial Evaluating Nyxol® Eye Drops for Night Vision Disturbances

Met FDA-agreed Primary Endpoint with More Nyxol Subjects Gaining 3 Lines of Low Contrast Distance Vision under Dim Light Conditions Compared to Placebo

First to Demonstrate Efficacy in Phase 3 Trial for the Large Unmet Need of Treating Night Vision Disturbances (NVD) in Subjects Experiencing Glare, Starbursts, or Halos

Benefit to Distance Vision in Dim Light Conditions Further Differentiates Nyxol from Other Presbyopia-Correcting Drops

Sixth Consecutive Positive Efficacy Readout in Last 15 Months with Nyxol Across Multiple Indications for Reversal of Mydriasis, Presbyopia, and now NVD

FARMINGTON HILLS, Mich., May 19, 2022 (GLOBE NEWSWIRE) -- Ocuphire Pharma, Inc. (Nasdaq: OCUP), a clinical-stage ophthalmic biopharmaceutical company focused on developing and commercializing therapies for the treatment of refractive and retinal eye disorders, today announced positive topline results from the LYNX-1 Phase 3 pivotal clinical trial investigating its product candidate Nyxol® for night (or dim light) vision disturbances (NVD). Across 12 US clinical trials with approximately 1100 subjects, over 650 subjects have now been exposed to Nyxol.

NVD is a condition in which unfocused rays of light derived from imperfections (or higher order ocular aberrations) in the periphery of the cornea manifest as reduced image quality when the pupil dilates in dim light conditions. Patients with NVD experience glare, halos, starbursts, and decreased contrast sensitivity. The effects of NVD can be mitigated by moderately reducing pupil diameter to eliminate some of the aberrations and their scattering effect, without impeding the ability to see in dim light due to reduced retinal illumination.

“We are pleased with this demonstrated efficacy of Nyxol in patients with NVD,” stated Mina Sooch, MBA, founder and CEO of Ocuphire Pharma. “LYNX-1 represents our sixth consecutive positive data readout for Nyxol in several indications and is a critical milestone towards future product registration. In alignment with our overall clinical priorities, and while we plan for a future LYNX trial as needed next year, we will focus on the pivotal trials for presbyopia and on the NDA submission and pre-commercial activities for Nyxol in reversal of mydriasis (RM). Importantly, the LYNX-1 trial results provide additional support for the safety and vision improvement benefits of Nyxol in RM and presbyopia in dim light conditions. I am

very proud of our team's track record of excellent execution. We are committed to making a difference for millions of patients with vision problems and are proud of the disruptive innovation we bring to the ophthalmic space. In that regard, we look forward to yet another late-stage clinical data readout in 2022 from the study of oral APX3330 for diabetic retinopathy."

Highlights of LYNX-1 NVD Phase 3 Results

LYNX-1 is a registration trial for Nyxol in this chronic NVD indication, and was designed as a randomized, double-masked, placebo-controlled, Phase 3 study to evaluate the safety and efficacy of Nyxol compared to placebo. In the trial, 145 study participants who experienced vision impairment under dim light conditions were randomized to receive either Nyxol or placebo, self-administered in each eye daily, at or near bedtime, over 14 days. The primary endpoint was the gain of 3 lines (or 15 letters) or more of distance vision improvement on a low contrast chart in dim light conditions.

Baseline demographics and ocular characteristic means were well-balanced across Nyxol and placebo treatment arms. Highlights of the patient population include a mean age of 46 years with participants ranging from 19 to 70 years old; subjects with a mix of light and dark irides; mean baseline mesopic pupil diameter of 6.1 mm; and mean distance visual acuity of only 17 letters (20/100 Snellen) under mesopic low contrast conditions.

Summary of LYNX-1 Data

- The FDA-agreed primary endpoint was met, with a statistically significant greater percentage of Nyxol-treated subjects having gained 15 or more letters of mesopic low contrast distance visual acuity (mLCVA) at Day 8, compared to placebo (13% vs 3%; $p<0.05$)

- Key secondary efficacy endpoints were also met with statistical significance:

    - The effect of Nyxol increased at Day 15, with 21% of subjects gaining 15 or more letters of mLCVA compared to 3% placebo ($p<0.01$)

    - Nyxol significantly increased the percentage of subjects gaining 10 or more letters of mLCVA at both Day 8 with 41% vs. 22% placebo ($p<0.05$) and at Day 15 with 44% vs. 23% ($p<0.05$)

- Nyxol showed a favorable safety and tolerability profile:

    - There were no serious adverse events

    - Adverse events occurring in Nyxol-treated subjects were predominantly mild in severity and were consistent with those observed in previous trials

Jay Pepose, M.D., Ph.D., Chief Medical Advisor and Board member said, "In the past, patients with night vision disturbances sometimes puzzled eye care professionals because their complaints often impacted the quality of vision far more than the quantity of vision as assessed in the office using standard high contrast charts. In the LYNX-1 study, after 14

days of dosing, a remarkable 21% of subjects achieved the 3 line improvement, the high bar set by the FDA. Moreover, 44% of subjects gained a clinically meaningful 2 line improvement in mesopic low contrast vision - a test of image quality that is sensitive to higher order aberrations and induced spatial phase shifts seen in patients with night vision disturbances. The unique 24-hour duration of Nyxol's effect in reducing pupil diameter makes this a convenient option for evening dosing for these patients, who find nighttime driving and other dim light activities challenging. In distinction to some other classes of miotics, the mechanism of action of Nyxol obviates any increased risk of retinal tears or detachment in this cohort of patients, many of whom have longer axial lengths and are therefore at higher retinal detachment risk. An additional safety attribute of Nyxol is that it does not make the pupil too small, which can markedly impact retinal illumination and thereby reduce retinal neural contrast and distance vision."

Marguerite McDonald, M.D., F.A.C.S., Clinical Professor of Ophthalmology at New York University's Langone Medical Center and Tulane University Health Sciences Center, and member of Ocuphire's Medical Advisory Board said, "I applaud Ocuphire for its commitment to pursue a treatment option for NVD. It is a common condition that has previously been largely unrecognized. I consider the results of the LYNX-1 study to be groundbreaking. As a refractive surgeon who has been involved with the development of Nyxol since its inception, I am happy to have a potential treatment option for my patients who suffer from NVD. NVD is currently patient-reported, including people of all ages who are post-LASIK, post-corneal ulcer, post-radial keratotomy, post-corneal transplant, tear-film instability or dry eye disease, keratoconus, or post-cataract surgery with multifocal or extended depth of focus intraocular lens implants. Eyecare professionals currently do not have the tools to actively manage NVD. Once a treatment becomes available, eyecare providers will begin to address this condition, and we expect that this market may grow, as was the case when Restasis® was approved for dry eye treatment."

Ocuphire Pharma plans to present LYNX-1 topline data and additional data at upcoming medical conferences. For more information about the LYNX-1 trial, please visit www.clinicaltrials.gov (NCT04638660).

Night Vision Disturbances Market Opportunity

According to GlobalData market research, approximately 38 million individuals in the US are believed to suffer from NVD, also referred to as dim light vision loss, with an estimated 16 million having moderate-to-severe NVD that may be directly addressable with a pupil modulation approach. The market size findings from the in-depth physician and patient surveys were larger than previously projected for this new unmet ophthalmic indication. Upon interview of patients who self-report NVD, 25% completely avoid driving at night. Furthermore, 67% of those that report moderate or severe NVD would be willing to try an eye drop treatment option. Seventy-five percent (75%) of physicians surveyed said they expect the diagnosis to increase once a treatment becomes available.

Despite many addressable patients with moderate-to-severe NVD, there is no FDA-approved treatment on the market for NVD. Pupil modulation by Nyxol through inhibition of the iris dilator muscle may offer symptomatic relief for these patients.

About Ocuphire Pharma

Ocuphire is a publicly-traded (NASDAQ: OCUP), clinical-stage ophthalmic biopharmaceutical company focused on developing and commercializing small-molecule therapies for the treatment of refractive and retinal eye disorders. The Company's lead product candidate, Nyxol® eye drops (0.75% phentolamine ophthalmic solution), is a once-daily, preservative-free eye drop formulation of phentolamine mesylate, a non-selective alpha-1 and alpha-2 adrenergic antagonist designed to reduce pupil size, and is being developed for several indications, including reversal of pharmacologically-induced mydriasis (RM), presbyopia and dim light or night vision disturbances (NVD), and has been studied in 12 completed clinical trials. Ocuphire has reported positive data from MIRA-2, MIRA-3 registration trials and MIRA-4 pediatric safety trial for the treatment of RM. Ocuphire also reported positive topline data from a Phase 2 trial of Nyxol for treatment of presbyopia, both Nyxol as a single agent and Nyxol with low dose pilocarpine ("LDP") 0.4% as adjunctive therapy. The Company recently reported positive topline results from LYNX-1 Phase 3 trial of Nyxol for NVD. Ocuphire's second product candidate, APX3330, is an oral tablet designed to inhibit angiogenesis and inflammation pathways relevant to retinal and choroidal vascular diseases, such as diabetic retinopathy (DR) and diabetic macular edema (DME) and has been studied in 11 Phase 1 and 2 trials. The Company recently announced the completion of enrollment in a Phase 2b clinical trial of APX3330 to treat DR/DME (ZETA-1). Please visit www.clinicaltrials.gov to learn more about Ocuphire's ongoing APX3330 Phase 2b trial in DR/DME (NCT04692688) and completed Nyxol trials: Phase 3 registration trial in NVD (NCT04638660), Phase 3 registration trials in RM MIRA-2 (NCT04620213), MIRA-3 (NCT05134974), MIRA-4 pediatric safety study (NCT05223478), and VEGA-1 Phase 2 trial in presbyopia (NCT04675151). As part of its strategy, Ocuphire will continue to explore opportunities to acquire additional ophthalmic assets and seek strategic partners for late-stage development, regulatory preparation, and commercialization of drugs in key global markets. For more information, visit www.ocuphire.com.

Forward Looking Statements

Statements contained in this press release regarding matters that are not historical facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, the success and timing of planned regulatory filings (including NDA filings), the market for NVD and other indications, the timing and results of potential future clinical trials, business strategy, pre-commercialization activities, and commercialization of Ocuphire's product candidates. These forward-looking statements are based upon Ocuphire's current expectations and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, including, without limitation: (i) the success and timing of regulatory submissions and pre-clinical and clinical trials, including enrollment and data readouts; (ii) regulatory requirements or developments; (iii) changes to clinical trial designs and regulatory pathways; (iv) changes in capital resource requirements; (v) risks related to the inability of Ocuphire to obtain sufficient additional capital to continue to advance its product candidates and its preclinical programs; (vi) legislative, regulatory, political and economic developments, (vii) changes in market opportunities, (viii) the effects of COVID-19 on clinical programs and business operations, (ix) the success and timing of commercialization of any of Ocuphire's product candidates and (x) the maintenance of Ocuphire's intellectual property rights. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and

should be read in conjunction with statements that are included herein and elsewhere, including the risk factors detailed in documents that have been and may be filed by Ocuphire from time to time with the SEC. All forward-looking statements contained in this press release speak only as of the date on which they were made. Ocuphire undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

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