PHARMADRUG FORMS RESEARCH COLLABORATION WITH TERASAKI INSTITUTE FOR NOVEL OCULAR DRUG FORMULATION PROGRAM TO DELIVER DMT AND OTHER TRYPTAMINES TO TREAT EYE DISEASE

- *Unlocking the potential of psychedelics, including DMT, and other tryptamines to treat the significant unmet medical needs of glaucoma patients*
- *Partnering with world-renowned research institution brings validated drug delivery expertise in novel, controlled drug-release technologies*

Toronto, Ontario--(Newsfile Corp. - August 5, 2021) - PharmaDrug Inc. (CSE: PHRX) (OTC: LMLLF) ("**PharmaDrug**" or the "**Company**"), a specialty pharmaceutical company focused on the research, development and commercialization of controlled-substances and natural medicines such as psychedelics, cannabis and naturally-derived approved drugs, is pleased to announce that PharmaDrug has entered into a sponsored research agreement with the Terasaki Institute to develop a novel ocular drug delivery platform that aims to deliver psychedelic and tryptamine-based pharmaceuticals, such as N, N-dimethyltryptamine ("DMT"), for eye diseases.

PharmaDrug will focus on developing a novel ocular drug delivery platform to deliver DMT and other undisclosed tryptamines as a potential therapeutic solution in treating the significant unmet medical needs of glaucoma patients. Glaucoma is a disorder of the optic nerve that results in irreversible vision loss and is the second leading cause of blindness in the world, according to the World Health Organization. Glaucoma impacts more than 2.7 million people aged 40 or older in the United States and current treatments are known to have poor rates of compliance of up to 80% of patients. The global market for glaucoma was estimated by Market Scope at $4.8 billion in 2019 with the U.S. market representing $1.9 billion.

Although the exact etiology of primary open angle glaucoma remains poorly understood, and may be variable across patient subsets, it is generally accepted that the observed increase in intraocular pressure (IOP) correlates with progressive vision loss[1]. As such, currently available glaucoma treatments, most commonly formulated into eyedrops, are designed to lower IOP. While these approaches provide partial improvement, they often result in side effects such as redness and stinging and require multiple daily applications; all of which diminish patient compliance.

Key regions of the eye that regulate fluid dynamics, including maintenance of healthy IOP, are known to be richly decorated with various serotonin receptor family members. Previous research has highlighted the role of serotonin receptor signaling in the regulation of IOP[2-5]. Tryptamines, often hallucinogenic above certain threshold concentrations, constitute a large collection of molecules that selectively act on multiple different serotonin

receptors including 5-HT1A and 5-HT2A. Topical application of several different tryptamines have shown early promise in preclinical models of elevated IOP, however formulation, delivery, the potential for undesirable hallucinogenic side effects, and the controlled substances act of 1970 have all contributed to a lack of development of tryptamines to treat this serious threat to vision. PharmaDrug, working with the renowned Terasaki Research Institute, has entered into a sponsored research agreement that will evaluate multiple candidate tryptamines, including DMT in various preclinical models of glaucoma. Studies will include cell-based basic research, active pharmaceutical ingredient formulation, and exploitation of novel delivery technologies aimed at improving patient outcome by delivering the optimal drug in a convenient format that improves compliance and diminishes side effects.

The Terasaki Institute for Biomedical Innovation is a biotechnology institute which develops medical devices and cutting-edge protocols for a variety of diagnostic, monitoring and treatment applications. Their research platforms include work in biomaterials, cellular and tissue engineering, wearable biosensors and organs-on-a-chip, with specific expertise in novel polymer development.

“We are very excited to partner with the Terasaki Institute, a leader in the design and development of novel drug delivery technologies. This relationship will expedite our development plan and move us meaningfully closer to our goal of evaluating DMT and other tryptamines for various types of eye disease which require both a pharmacological and delivery solution to fill the significant treatment gap in glaucoma” said Daniel Cohen, Chairman and CEO of PharmaDrug. “By aligning ourselves with thought leaders in the space we aim to tackle the worthy challenge of developing a novel delivery device that will provide sub-psychedelic quantities of candidate tryptamines to the front of the eye.”

Dr. Ali Khademhosseini, CEO of the Terasaki Institute commented: “At the Terasaki Institute we have a number of core competences in developing next generation medical technologies such as polymer-based formulations and wearables for drug delivery purposes. We have partnered with various pharmaceutical and biotechnology companies seeking to evolve their product offerings in treating significant unmet medical needs. PharmaDrug’s unique proposed solution to the challenges that are present in eye diseases is what motivates the Terasaki team to answer the call in developing a drug delivery system that would positively affect the millions of people who suffer with impaired vision and compromised quality of life. We are excited to be working with PharmaDrug and be a part of their journey in their quest to develop therapeutic solutions for eye disease.”

About PharmaDrug Inc.

PharmaDrug is a specialty pharmaceutical company focused on the research, development and commercialization of controlled-substances and natural medicines such as psychedelics, cannabis and naturally-derived approved drugs. The Company owns 80% of Pharmadrug Production GmbH, a German medical cannabis distributor, with a Schedule I European Union narcotics license and German EuGMP certification allowing for the importation and distribution of medical cannabis to pharmacies in Germany and throughout the EU. The Company also owns 100% of Super Smart, a Dutch company building a modern adult use psychedelic retail business with an elevated and educational focus. PharmaDrug recently acquired Sairiyo Therapeutics, a biotech company that specializes in researching and reformulating established natural medicines with a goal of bringing them through regulatory and research driven clinical trials.

For further information, please contact:

Daniel Cohen, Chairman and CEO
dcohen@pharmadrug.co
(647) 202-1824

Caution Regarding Forward-Looking Information:

THE CANADIAN SECURITIES EXCHANGE HAS NOT REVIEWED NOR DOES IT ACCEPT RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THIS RELEASE.

This news release may contain forward-looking statements and information based on current expectations. These statements should not be read as guarantees of future performance or results of the Company. Such statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from those implied by such statements. Although such statements are based on management's reasonable assumptions, there can be no assurance that such assumptions will prove to be correct. We assume no responsibility to update or revise them to reflect new events or circumstances. The Company's securities have not been registered under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act"), or applicable state securities laws, and may not be offered or sold to, or for the account or benefit of, persons in the United States or "U.S. Persons", as such term is defined in Regulations under the U.S. Securities Act, absent registration or an applicable exemption from such registration requirements. This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the securities in the United States or any jurisdiction in which such offer, solicitation or sale would be unlawful. Additionally, there are known and unknown risk factors which could cause the Company's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information contained herein, such as, but not limited to dependence on obtaining regulatory approvals; the ability to locate additional supply of medical cannabis, owning interests in companies or projects that are engaged in activities currently considered illegal under United States federal law; changes in laws; limited operating history, reliance on management, requirements for additional financing, competition, hindering market growth; regulatory and political change. All forward-looking information herein is qualified in its entirety by this cautionary statement, and the Company disclaims any obligation to revise or update any such forward-looking information or to publicly announce the result of any revisions to any of the forward-looking information contained herein to reflect future results, events or developments, except as required by law.

Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information. Such risks and other factors

may include, but are not limited to: general business, economic, competitive, political and social uncertainties; general capital market conditions and market prices for securities; the actual results of the Company's future operations; competition; changes in legislation affecting the Company; the ability to obtain and maintain required permits and approvals, the timing and availability of external financing on acceptable terms; lack of qualified, skilled labour or loss of key individuals; risks related to the COVID-19 pandemic including various recommendations, orders and measures of governmental authorities to try to limit the pandemic, including travel restrictions, border closures, non-essential business closures, service disruptions, quarantines, self-isolations, shelters-in-place and social distancing, disruptions to markets, economic activity, financing, supply chains and sales channels, and a deterioration of general economic conditions; and a deterioration of financial markets that could limit the Company's ability to obtain external financing.

A description of additional risk factors that may cause actual results to differ materially from forward-looking information can be found in the Company's disclosure documents on the SEDAR website at www.sedar.com. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking information. Readers are cautioned that the foregoing list of factors is not exhaustive. Readers are further cautioned not to place undue reliance on forward-looking information as there can be no assurance that the plans, intentions or expectations upon which they are placed will occur. Such information, although considered reasonable by management at the time of preparation, may prove to be incorrect and actual results may differ materially from those anticipated.

The Company's securities have not been registered under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act"), or applicable state securities laws, and may not be offered or sold to, or for the account or benefit of, persons in the United States or "U.S. Persons", as such term is defined in Regulations under the U.S. Securities Act, absent registration or an applicable exemption from such registration requirements. This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the securities in the United States or any jurisdiction in which such offer, solicitation or sale would be unlawful.

Forward-looking information contained in this press release is expressly qualified by this cautionary statement. The forward-looking information contained in this press release represents the expectations of the Company as of the date of this press release and, accordingly, are subject to change after such date. However, the Company expressly disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as expressly required by applicable securities law.

References:

1. Weinreb RN, Leung CK, Crowston JG, Medeiros FA, Friedman DS, Wiggs JL, Martin KR. Primary open-angle glaucoma. Nat Rev Dis Primers. 2016 Sep 22;2:16067. doi: 10.1038/nrdp.2016.67. PMID: 27654570.
2. May JA, McLaughlin MA, Sharif NA, Hellberg MR, Dean TR. Evaluation of the ocular hypotensive response of serotonin 5-HT1A and 5-HT2 receptor ligands in conscious ocular hypertensive cynomolgus monkeys. J Pharmacol Exp Ther. 2003 Jul;306(1):301-9. doi: 10.1124/jpet.103.049528. Epub 2003 Apr 3. PMID: 12676887.
3. Sharif NA. Serotonin-2 receptor agonists as novel ocular hypotensive agents and their cellular and molecular mechanisms of action. Curr Drug Targets. 2010 Aug;11(8):978-93. doi: 10.2174/138945010791591278. PMID: 20426763.

4. Najam A Sharif & Jesse A May (2011) Potential for serotonergic agents to treat elevated intraocular pressure and glaucoma: focus on 5-HT2 receptor agonists, Expert Review of Ophthalmology, 6:1, 105-120, DOI: 10.1586/eop.10.69
5. Sharif NA, McLaughlin MA, Kelly CR. AL-34662: a potent, selective, and efficacious ocular hypotensive serotonin-2 receptor agonist. J Ocul Pharmacol Ther. 2007 Feb;23(1):1-13. doi: 10.1089/jop.2006.0093. PMID: 17341144.