



## WPD PHARMACEUTICALS LICENSOR ANNOUNCES CONFIRMATORY IN VITRO ANALYSIS OF WP1122

**Vancouver, British Columbia** – June 22, 2020 – WPD Pharmaceuticals Inc. (CSE: WBIO)(FSE: 8SV1) (the “**Company**” or “**WPD**”), a clinical stage pharmaceutical company, is pleased to announce that Moleculin Biotech Inc. (“**Moleculin**”), the company that sublicenses the WP1122 compound to WPD for WPD’s use in 29 countries mainly in Europe, announced on June 16, 2020 that a repeat of previous in vitro testing has corroborated the antiviral potential of WP1122.

Although developing in vitro data is an initial step and the data may not necessarily reflect the antiviral effects in vivo, the results of this repeated round of in vitro testing received by Moleculin on June 1, 2020, confirm that WP1122 has an antiviral effect on Human Coronavirus 229E (“HCoV-229E”), a surrogate of SARS-CoV-2, the virus responsible for COVID-19.

On May 27, 2020, Moleculin announced results from the initial preclinical assessment of the potential for WP1122 to address COVID-19. The testing involved a cell viability assay, followed by a virus yield reduction assay. These tests were intended to assess and compare in vitro antiviral properties of WP1122 and its active moiety (subpart) 2-DG. In this regard, an unedited version of an article that has now been accepted for publication in the scientific journal, *Nature* (Bojkova, D. et al. Proteomics of SARS-CoV-2-infected host cells reveals therapy targets, *Nature* <https://doi.org/10.1038/s41586-020-2332-7> 2020)\*, reports that one of the therapeutic targets in SARS-CoV-2 is glycolysis. This work performed by an independent research team at the Goethe-University of Frankfurt further showed that targeting glycolysis with 2-DG stopped replication of SARS CoV-2 in vitro. These results are consistent with previous research reports demonstrating the antiviral activities of 2-DG in other viruses. Moleculin stated that it believes that without the benefit of WP1122’s prodrug structure, 2-DG’s rapid metabolism and limited drug-like properties prevent it from being sufficiently effective in vivo and that in vivo testing of WP1122 may make its benefits more apparent.

Moleculin’s testing was intended to demonstrate the ability of WP1122, a prodrug of 2-DG, to inhibit coronavirus proliferation in a mammalian cell culture. The testing was performed using a surrogate of SARS-CoV-2 called HCoV-229E. Moleculin considers HCoV-229E an appropriate surrogate model for SARS-CoV-2 as both 2-DG and WP1122 are thought to act as both inhibitors of glycolysis and also by altering glycoprotein/glycan structures, including the characteristic spikes found on SARS-CoV-2. Glycans have been shown to form on the outside of the virus and can serve to shield it from the host’s immune system. Additionally, the glycoprotein/glycan spikes present on HCoV-229E and on SARS-CoV-2 appear to perform similar functions in the viral lifecycle. Moreover, 2-DG and WP1122 are also believed to work by inhibiting glycolysis, which is expected to play a similar role in HCoV-229E as it does in SARS-CoV-2.

The mechanism of action of 2-DG and WP1122 is very different from other drugs being developed for COVID-19. Specifically, because 2-DG has been shown to target glucose metabolism, in vitro testing results are significantly affected by the concentration of natural glucose in the microenvironment present during viral replication and continued infection. For this reason, and consistent with guidance from the FDA, Moleculin stated that it will seek to evaluate WP1122 in an animal model for COVID-19 as a part of its IND preparation. Moleculin further stated “plans to address the FDA's guidance, both in a second Pre-IND meeting and in an IND submission currently anticipated for the end of 2020. (Moleculin) will seek to conduct a Phase 1a/1b proof-of-concept study, with the Phase 1b being in a relatively small number of early, mild COVID-19 patients.”

WPD has not conducted its own independent confirmation testing of WP1122 and is relying solely on the information contained in Moleculin's news release dated June 16, 2020 in providing this information to WPD's shareholders.

\*The publication states: “This is an unedited manuscript that has been accepted for publication. Nature Research are providing this early version of the manuscript as a service to our authors and readers. The manuscript will undergo copyediting, typesetting and a proof review before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers apply.”

## **About WPD Pharmaceuticals**

WPD is a biotechnology research and development company with a focus on oncology, namely research and development of medicinal products involving biological compounds and small molecules. WPD has licensed in certain countries 10 novel drug candidates with 4 that are in clinical development stage. These drug candidates were researched at institutions, and WPD currently has ongoing collaborations with Wake Forest University and leading hospitals and academic centers in Poland.

WPD has entered into license agreements with Wake Forest University Health Sciences and sublicense agreements with Moleculin Biotech, Inc. and CNS Pharmaceuticals, Inc., respectively, each of which grant WPD an exclusive, royalty-bearing sublicense to certain technologies of the licensor. Such agreements provide WPD with certain research, development, manufacturing and sales rights, among other things. The sublicense territory from CNS Pharmaceuticals and Moleculin Biotech includes for most compounds 31 countries in Europe and Asia, including Russia.

## **On Behalf of the Board**

*'Mariusz Olejniczak'*

Mariusz Olejniczak  
CEO, WPD Pharmaceuticals

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**Cautionary Statements:**

*Neither the Canadian Securities Exchange nor the Investment Industry Regulatory Organization of Canada accepts responsibility for the adequacy or accuracy of this release.*

*This press release contains forward-looking statements. Forward-looking statements are statements that contemplate activities, events or developments that the Company can develop effective drugs against cancer and possibly viruses, and that in vivo testing of WP1122 may make its benefits against SARS-CoV-2 more apparent. Factors which may prevent the forward looking statement from being realized include that competitors or others may successfully challenge a granted patent and the patent could be rendered void; we may be unable to raise sufficient funding for our research; we may be unable to expend sufficient funds on research to keep our sublicense rights; our grant applications may not be successful or if successful, we may not meet the requirements to receive the grants awarded; that our drugs don't provide positive treatment, or if they do, the side effects are damaging; competitors may develop better or cheaper drugs; and we may be unable to obtain regulatory approval for any drugs we develop. Readers should refer to the risk disclosure included from time-to-time in the documents the Company files on SEDAR, available at [www.sedar.com](http://www.sedar.com). Although the Company believes that the assumptions inherent in these forward-looking statements are reasonable, they are not guarantees of future performance and, accordingly, they should not be relied upon and there can be no assurance that any of them will prove to be accurate. Finally, these forward-looking statements are made as of the date of this press release and the Company assumes no obligation to update them except as required by applicable law.*