

# **Shuttle Pharmaceuticals Awarded New HDAC Inhibitor Patents for Cancer Treatment**

## ***Company awarded patents in the U.S. and Hong Kong***

ROCKVILLE, Md., Sept. 15, 2022 — Shuttle Pharmaceuticals Holdings, Inc. (Nasdaq: SHPH), a discovery and development stage specialty pharmaceutical company, announced today that it has been awarded patents in the U.S. and Hong Kong for its radiation sensitizing HDAC inhibitor technology platform, which is focused on reducing side effects and improving outcomes for cancer patients treated with radiation therapy (RT).



“We are pleased to have been awarded these additional U.S. and Hong Kong patents,” said Dr. Anatoly Dritschilo, Chief Executive Officer of Shuttle Pharmaceuticals. “We are developing our platform with the goal of being on the leading-edge in helping cancer patients treated with radiation therapy have the best possible outcomes and dramatically improve their quality of life.”

“We are building a robust portfolio of drug candidates to sensitize cancer to radiation therapy and to activate the immune system to target irradiated tumor cells,” continued Dr. Dritschilo. “Selective HDAC6 inhibitors are an emerging class of pharmaceuticals with significant applications in cancers, neurodegenerative diseases and immunology.”

Various sources have estimated that more than 800,000 patients in the US are treated with radiation therapy for their cancers. According to the American Cancer Society about 50% are treated for curative purposes and the balance for therapeutic care. The market opportunity for radiation sensitizers lies with the 400,000 patients treated for curative purposes. The number of patients being treated with RT is expected to grow by more than 22% over the next five years. Based on a rough estimate of a course of radiation sensitizing brand drug

therapy (used off label at this time) of \$12,000 per patient-the market size would be in excess of \$4.0 billion annually.

Histone deacetylase (HDAC) inhibitors have been described as “a novel class of drugs that target enzymes involved in regulation of critical cellular functions that can inhibit cancer growth and activate cellular immunity,” according to Scott Grindrod, PhD, lead inventor and Laboratory Director at Shuttle Pharmaceuticals.

Treatment with HDAC inhibitors allows regulation of gene expression by blocking HDAC enzyme activity and allowing genes to be “turned on” to express proteins involved in regulation of the cell cycle, DNA damage response and immune activation. Inhibiting HDAC enzymes can turn on tumor suppressor genes to help control cell division and slow down cancer progression. Non-cytotoxic, highly selective inhibitors target the histone deacetylase 6 (HDAC6) enzyme to stimulate the immune system for applications in the treatment of cancers, neurological diseases and immunological disorders.

The referenced patent awarded is U.S. Patent No.11,407,723 for “Selective Histone Deacetylase Inhibitors for the Treatment of Human Disease.” The Company’s HDAC inhibitor technology platform for “Dual Function Molecules for Histone Deacetylase Inhibition and Ataxia Telangiectasia Mutated Activation and Methods of Use Thereof” was also awarded Hong Kong Patent No. HK1250474 and has European applications under review.

### **About Shuttle Pharmaceuticals**

Founded in 2012 by faculty members of the Georgetown University Medical Center, Shuttle Pharmaceuticals is a discovery and development stage specialty pharmaceutical company focused on improving the outcomes for cancer patients treated with radiation therapy (RT). Our mission is to improve the lives of cancer patients by developing therapies that are designed to maximize the effectiveness of RT while limiting the side effects of radiation in cancer treatment. Although RT is a proven modality for treating cancers, by developing radiation sensitizers, we aim to increase cancer cure rates, prolong patient survival and improve quality of life when used as a primary treatment or in combination with surgery, chemotherapy and immunotherapy. For more information, please visit our website at [www.shuttlepharma.com](http://www.shuttlepharma.com).

### **Safe Harbor Statement**

Statements in this press release about future expectations, plans and prospects, as well as any other statements regarding matters that are not historical facts, may constitute “forward-looking statements.” These statements include, but are not limited to, statements concerning the development of our company, including the effects of our receipt of certain patents and prospective patents. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,”

“target,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including factors discussed in the “Risk Factors” section of the IPO prospectus filed with the SEC. Any forward-looking statements contained in this press release speak only as of the date hereof and, except as required by federal securities laws, Shuttle Pharmaceuticals specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

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