

## **Shuttle Pharmaceuticals, Inc. Awarded a New Patent for Dual Function HDAC Molecules for HDAC Inhibition and Ataxia Telangiectasia Mutated Activation for Cancer Treatment**

ROCKVILLE, Md., Nov. 4, 2020 — Shuttle Pharmaceuticals, Inc (Shuttle Pharma) a clinical stage, Maryland-based, biopharmaceutical company developing new drugs for cancer treatment in combination with radiation therapy, was awarded patent number 10,745,352 by the U.S. Patent and Trademark Office. These novel compounds enable cancer treatment by the combination of an inhibitory epigenetic mechanism and a stimulatory DNA repair activation process using a single molecule. The patent is the first issued based on Shuttle Pharma's platform technology linking an ATM activating domain to an HDAC inhibitory domain for cancer treatment and protection of normal tissue. Shuttle Pharma holds the exclusive rights for development of this drug platform.

Lead inventor Scott Grindrod, PhD describes histone deacetylase (HDAC) inhibitors as a novel class of drugs targeting enzymes involved in regulation of gene expression. HDACs regulate gene expression by changing the conformation of chromatin in cells into a tightly coiled and transcriptionally inactive form. However, acetylated chromatin is more open and supports transcription. Inhibitors of HDAC enzymes can inhibit cell growth, regulate tubulin stability, turn on transcription of tumor suppressor genes, and activate cellular immunity. These are key target functions for cancer treatment.

Ataxia-telangiectasia is a human genetic disease characterized by extreme radiation sensitivity, neurological immune impairment, and premature aging. The mutated gene product (ATM) regulates the responses of cells to DNA damaging agents. In normal cells, ATM protein activation enables efficient repair of radiation damage to protect the genome and promote cell survival.

There are 12 HDAC enzymes with important functions for maintaining health. Clinical applications of pan-HDAC inhibitors have been limited by off target toxicities. Shuttle Pharma has focused its discovery platform technology on HDAC enzyme selectivity. According to Dr. Anatoly Dritschilo, Shuttle Pharma's CEO, the interest in immunotherapy to treat cancers in combination with other modalities has focused particular attention on HDAC6 selective inhibitors.

About Shuttle Pharmaceuticals, Inc.

Shuttle Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company leveraging their proprietary technology to develop novel therapies that are designed to cure cancer. The company is a pioneer in developing technologies that operate in distinct areas related to the treatment of cancer with radiation therapy: 1. sensitization of growing cancer cells, 2. sensitization of hypoxic cells in tumors that resist radiation therapy, and 3. activation of the

immune system and the DNA damage response pathway to kill cancer cells and protect the normal cells located near cancers.

#### Forward looking statement

This press release may contain certain forward-looking statements. Although the Company believes its expectations are based on reasonable assumptions, all statements other than statements of historical fact included in this press release about future events are subject to (i) change without notice, (ii) factors beyond the Company's control and (iii) the financial capabilities of the Company. Forward looking statements are subject to inherent risks and uncertainties beyond the Company's control that could cause the Company's actual results, performance or achievements to be materially different from the expected results, performance or achievements expressed or implied by such forward-looking statements. Except as required by law, the Company assumes no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future. For more information about Shuttle Pharma, please visit [www.shuttlepharma.com](http://www.shuttlepharma.com).