



NASDAQ: LIXT
SUMMER 2021

LIXTE BIOTECHNOLOGY HOLDINGS, INC.

DEDICATED TO CREATING BETTER TREATMENTS FOR CANCER

Lixte Biotechnology Holdings, Inc. (Nasdaq: LIXT) is a clinical-stage pharmaceutical company dedicated to discovering drugs for more effective treatments for many forms of cancer and other serious common diseases. A major driver of cancer is defects in the switches that turn the biochemical pathways in cells on and off. Most cancer research over the past 30 years has focused on the “on” switches because the “off” switches, especially the master “off” switch protein phosphatase (PP2A), were believed to cause intolerable toxicity in patients. Lixte has achieved a breakthrough with its novel, first-in-class lead compound, PP2A inhibitor LB-100, by demonstrating that it is readily tolerated in cancer patients at doses associated with anti-cancer activity. This innovative approach encourages cancer cells, weakened by chemo or other cancer therapies, to continue to replicate, leading to the more efficient death and elimination of those cells from the body. Lixte has partnered with top medical institutions and leading academic research centers to advance the clinical development of its compounds. The LB-100 compound, of which there are no competitors known to Lixte, is currently being tested in three clinical studies with others in planning.

LIXTE Product Pipeline		PRE-CLINICAL	PHASE 1	PHASE 2	PHASE 3
LB-100: Ongoing Studies and Planned Trials					
Small Cell Lung Cancer (SCLC)	NCT04560972	[Progress bar]			
Soft Tissue Sarcoma (STS) - 1st line; randomized		[Progress bar]			
Myelodysplastic Syndrome (MDS)	NCT03886662	[Progress bar]			
Gliomas (Pharmacology)	NCT03027388	[Progress bar]			
Angelman Syndrome (AS)		[Progress bar]			

KEY INVESTMENT CONSIDERATIONS

- Lixte’s lead compound LB-100 is a unique first-in-class anti-cancer agent with no competitors known to Lixte currently in the clinic.
- 40+ preclinical studies with leading medical centers indicate that LB-100 enhances standard therapies for many cancers.
- The total market for LB-100 clinical targets exceeds \$5 billion (myelodysplastic syndrome, soft tissue sarcomas, glioblastoma, and small cell lung cancer).
- Lixte holds an extensive international patent portfolio, including LB-100 and its potential clinical applications.
- Lixte’s distinguished management team includes veterans from Mayo Clinic and City of Hope.
- Collaboration partners include National Cancer Institute, or NCI; Moffitt NCI-designated Comprehensive Cancer Center, Tampa, FL; Spanish Sarcoma Group (Grupo Español de Investigación en Sarcomas or “GEIS”), Madrid, Spain; Foundation for Angelman Syndrome Therapeutics (FAST), Downers Grove, IL; and City of Hope, Duarte, CA.

PRICE	52-WK. RANGE	AVG. VOL	SHARES OUTSTANDING	MARKET CAP
\$3.00 (6/16/21)	\$0.75 - \$7.19	262KM	13.6M	\$40.9M

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LB-100: A NOVEL, LESS TOXIC CANCER DRUG: SUCCESS IN ANY CANCER WOULD BE A GAME CHANGER

- LB-100 inhibits an enzyme, protein phosphatase (PP2A), that is a master off switch controlling many aspects of cell cycle, DNA damage repair, and regulation of T-cell function.
- LB-100 causes cancer cells, weakened by chemo or other cancer therapies, to continue to replicate, leading to the more efficient death and elimination of cancer cells from the body.
- If the improvement of standard treatments for diverse cancers by LB-100 is documented in the clinic, this first-in-class compound will be a major advance in cancer therapy.

THREE CLINICAL STUDIES + ONE PHARMACOLOGY STUDY OF LB-100 ARE IN THE PIPELINE:

<u>Myelodysplastic (MDS) Syndromes</u>	<u>Soft Tissue Sarcoma</u>	<u>Small Cell Lung Cancer</u>	<u>Glioblastoma Multiforme (GBM) - PHASE 0</u>
A group of cancers in which immature blood cells in the bone marrow do not mature or become healthy blood cells. PP2A inhibition enhances apoptosis (a form of programmed cell death) of MDS cells.	A cancer that begins in the muscle, fat, fibrous tissue, blood vessels, or other supporting tissue of the body. The chemotherapy medication Doxorubicin is enhanced by LB-100.	Small cell lung cancer is a carcinoma that usually starts in the air tubes (bronchi) in the center of the chest. LB-100 will be combined with a standard three-drug regimen to assess therapeutic activity.	The most aggressive type of cancer that begins within the brain. Radiation and temozolomide (a medication used to treat some brain tumors including GBM) are enhanced by LB-100.

RECENT DEVELOPMENTS

May 2021 – Lixte announced enrollment of the first patient in a Phase 1b clinical trial with City of Hope for its lead compound LB-100 as a treatment for small cell lung cancer. Lixte also announced the appointment of Regina Brown, CPA, proprietor of a 30-year accounting practice serving large national clients, to its board of directors as audit committee chair.

April 2021 – Gil N. Schwartzberg, Esq., former chairman, president and CEO of City of Hope National Medical Center, an NCI-designated Comprehensive Cancer Center, joined Lixte's board of directors.

February 2021 – Lixte completed a \$4.19 million registered direct offering of common stock. Proceeds will be used for general corporate purposes and general expenses including further development of LB-100.

January 2021 – Lixte announced an agreement on a Phase 1b clinical trial with world-renowned independent cancer research and treatment center City of Hope. The trial will assess the combination of LB-100 with a standard regimen for untreated, extensive stage-disease small cell lung cancer (ED-SCLC).

August 2020 – Lixte announced an agreement with the Foundation for Angelman Syndrome Therapeutics (FAST) to collaborate in supporting preclinical studies of the potential benefit of LB-100 in a mouse model of Angelman Syndrome (AS). The preclinical studies will be conducted at The University of California Davis School of Medicine and MIND Institute.

MANAGEMENT

John S. Kovach, MD: Founder and CEO: Medical Oncologist and Clinical Pharmacologist; former director of NCI Comprehensive Cancer Centers at Mayo Clinic and City of Hope

James Miser, MD: Chief Medical Officer: Seattle Children's Hospital, Fred Hutchinson Cancer Research Center, City of Hope

Robert N. Weingarten, Chief Financial Officer: Guardion Health Sciences, RespireRx Pharmaceuticals

Eric J. Forman, Esq., Chief Administrative Officer: Eric Forman Law representing leading biotechnology companies

DIRECTORS

John S. Kovach, MD: founder and CEO of Lixte Biotechnology Holdings

Dr. Philip F. Palmedo: physicist, entrepreneur and corporate manager; first president of the Long Island Research Institute formed by Brookhaven National Laboratory, Cold Spring Harbor Laboratory, and SUNY - Stony Brook

Dr. Stephen J. Forman: internationally recognized expert in hematologic malignancies and bone marrow transplantation

Dr. Yun Yen: physician, scientist, innovator, and philanthropist; widely regarded as an expert in ribonucleotide reductase, a critical target in cancer therapy and diagnostics

Gil N. Schwartzberg, Esq.: former Chairman of the Board and CEO of City of Hope; founder of Sterling Bank of Los Angeles and Skechers USA

FORWARD LOOKING STATEMENTS: This fact sheet contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. For example, statements regarding the Company's financial position, business strategy and other plans and objectives for future operations, and assumptions and predictions about future product demand, supply, manufacturing, costs, marketing, and pricing factors are all forward-looking statements. These statements are generally accompanied by words such as "intend," "anticipate," "believe," "estimate," "potential(ly)," "continue," "forecast," "predict," "plan," "may," "will," "could," "would," "should," "expect," or the negative of such terms or other comparable terminology. The Company believes that the assumptions and expectations reflected in such forward-looking statements are reasonable, based on information available to it on the date hereof, but the Company cannot provide assurances that these assumptions and expectations will prove to have been correct or that the Company will take any action that the Company may presently be planning. However, these forward-looking statements are inherently subject to known and unknown risks and uncertainties. Actual results or experience may differ materially from those expected or anticipated in the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, regulatory policies, available cash, research results, competition from other similar businesses, and market and general economic factors. This discussion should be read in conjunction with the Company's filings with the U.S. Securities and Exchange Commission, including specifically the Company's recently-effective registration statement on Form S-3, as well as the financial statements and notes thereto and the risk factors therein.