



## Ocean Biomedical, Inc. (NASDAQ: OCEA) Celebrates 95% Lung Cancer Tumor Reduction Results on World Lung Cancer Day

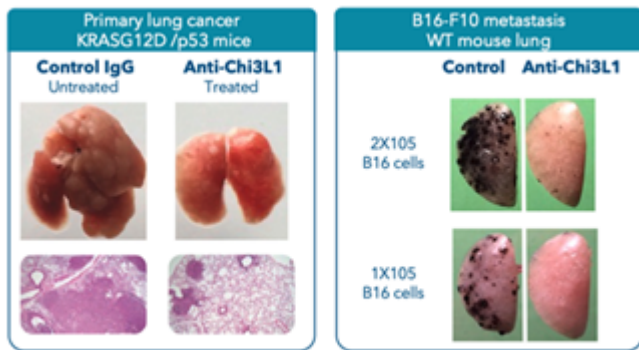
August 1, 2023

*Ocean Biomedical's Oncology Platform currently consists of 27 Patents Issued or Pending.*

*Ocean Biomedical's first-in-class anti-CHI3L1 therapeutic immunotherapy program has shown compounding efficacy in multiple lung cancer models while simultaneously inhibiting multiple oncogenic pathways, including hard-to-treat Non-Small Cell Lung Cancer (NSCLC).*

Providence, RI, Aug. 01, 2023 (GLOBE NEWSWIRE) -- On World Lung Cancer Day, [Ocean Biomedical, Inc.](#) (NASDAQ: [OCEA](#)) is sharing details of its multi-pronged Lung Cancer Program built on novel immunotherapy discoveries by Scientific Co-founder Dr. Jack A. Elias. He and his team have revealed that Chitinase 3-like-1 (CHI3L1) is a master regulator that inhibits antitumor immune responses. Ocean Biomedical's lung cancer program is advancing **several approaches to reversing immune system suppression** caused by CHI3L1 alone and in combination with other immunotherapy pathways. These programs suppress primary and metastatic tumor growth in multiple animal models and have potential use in multiple forms of visceral cancers. In recent studies, Ocean Biomedical's programs have demonstrated **up to 95% reduction in primary and metastatic tumor burden in mouse models of lung cancer.**

**Anti-CHI3L1 monoclonal immunotherapy.** The first step in this tumor reduction approach has stemmed from effectively reversing immune system suppression through binding CHI3L1 polypeptides with Ocean Biomedical's proprietary immunoglobulin antibody. This monoclonal approach has yielded dramatic reduction in mouse lung tumor burden similar to current, cutting-edge monoclonal therapeutics (imaging below), creating the possibility of a new cancer immunotherapy option for patients who have poor response to existing treatments. Ocean's monoclonal antibody targeting CHI3L1 was awarded a U.S. patent in June 2023 not only for application in lung cancer, but potential application in prostate cancer, colon cancer, rectal cancer, ovarian cancer, kidney cancer, breast cancer, glioblastoma, and melanoma as well.



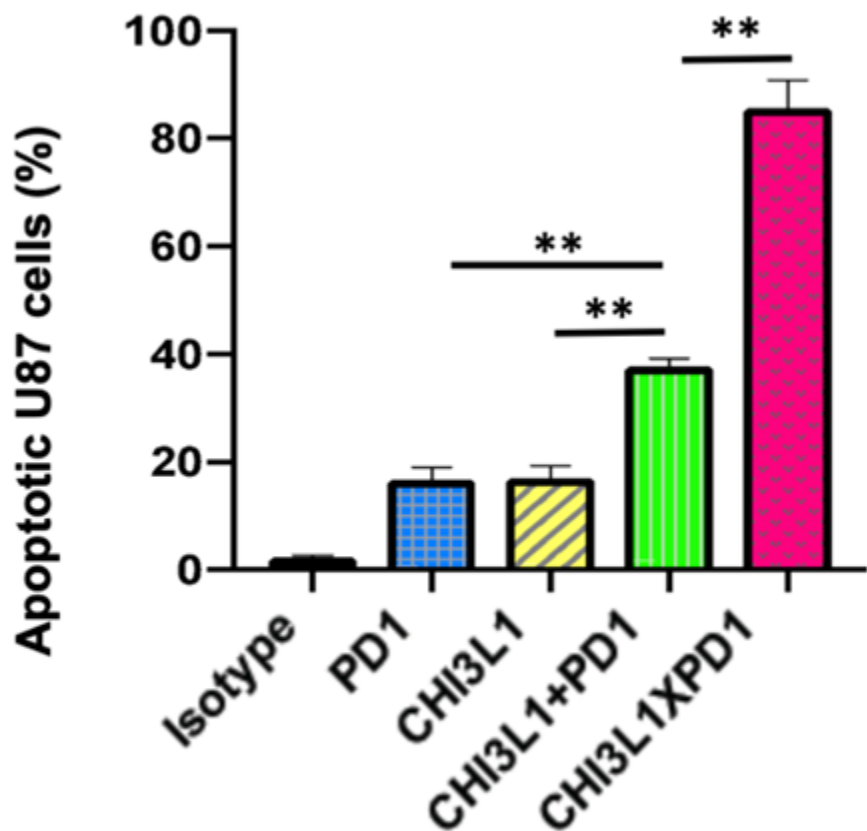
Mouse lungs treated with Ocean Biomedical's Anti-CHI3L1

**Multiple Bispecific Immunotherapy Pathways.** Building on the monoclonal antibody approach, Ocean Biomedical is developing groundbreaking bispecific antibodies that target CHI3L1 *in combination* with other known suppressors of tumor growth and development. **This approach results in the simultaneous targeting of several major cancer pathways.** Each bispecific candidate has been shown to substantially multiply effectiveness compared to current, established mono-focused immunotherapeutics. This novel approach builds on one of the most exciting developments in cancer research in recent years - the realization that evasion of the body's immune system is essential for tumor growth, progression, and resistance to treatments, especially through the suppression of T-cell responses and the stimulation of natural immune checkpoints. These advances have led to some successful lung cancer therapeutics that target PD1, PDL1, and CTLA-4, which individually all have roles in suppressing the immune system.

Ocean Biomedical is working to create a new generation of cancer therapeutics. In separate new approaches [targeting PD1](#) and [CTLA4](#), each in combination with anti-CHI3L1, the company's bispecific therapeutic candidates have created **lung cancer tumor suppression of 85%–95%** (images below). Both bispecific approaches have pending patents in the U.S. and internationally, with claims extending beyond lung cancer to potential use in multiple additional cancers, including glioblastoma multiforme.

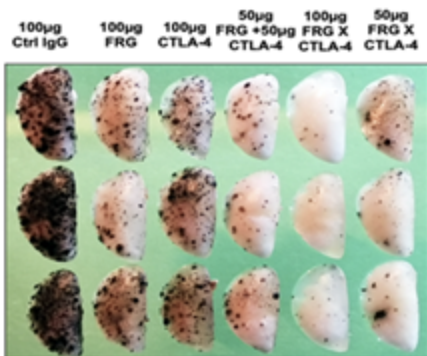
**Anti-CHI3L1+Anti-PD1 bispecific immunotherapy.** One of the currently effective cancer immunotherapies targets Programmed

Cell Death Receptors, often designated “PD1” and its ligand “PDL1.” In results of one study testing the efficacy of the monospecific and bispecific antibodies by culturing tumor cells and human T lymphocyte cells together in the presence of varying combinations of our antibodies (results illustrated below), anti-PD1 caused the T cells to kill approximately 20% of the tumor cells and Ocean’s monospecific anti-CHI3L1 was comparably effective. When the two monospecific antibodies (anti-CHI3L1 and anti-PD1) were administered individually and at the same time an additive effect was seen with 40% of the tumor cells being killed. Pushing a step further, when Dr. Elias’ team tested the bispecific antibody that targeted CHI3L1 and PD1 **greater than 90% of the tumor cells were killed**. Thus, in multiple in vitro and mouse model lung cancer tests, the bispecific antibody that simultaneously targets CHI3L1 and PD1 has a remarkable, synergistic impact leading to tumor reduction that **more than quadruples the impact of anti-PD1 alone**.



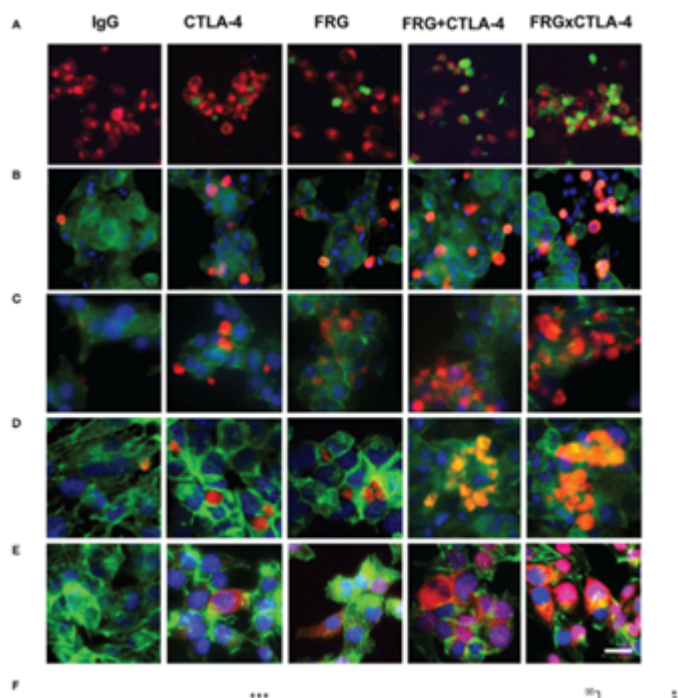
### Anti-CHI3L1 + Anti-PD1 In Vitro Results

**Anti-CHI3L1+Anti-CTLA4 bispecific immunotherapy.** In addition to the PD1 pathway, Ocean Biomedical is also targeting the immune checkpoint inhibitor CTLA4, another established immunotherapy pathway. The efficacy of these monospecific and bispecific antibodies has been tested in mouse model experiments (results shown below), where malignant melanoma tumor cells are released into the mouse circulation and their ability to spread (metastasize) to the lung is evaluated by quantitating the black pleural tumor colonies that develop in the presence of varying combinations of Ocean’s antibodies. Shown below, anti-CTLA4 decreased tumor metastasis by approximately 40% cells and Ocean’s monospecific anti-CHI3L1 was comparably effective. When the two monospecific antibodies (anti-CHI3L1 and anti-CTLA4) were administered individually and at the same time an additive effect was seen with a 60% decrease in pleural colonies (column 4). When the bispecific antibody that simultaneously targeted CHI3L1 and CTLA4 **was employed there was a more than 80% decrease in metastasis (column 5)**.



Anti-CHI3L1+Anti-CTLA4 In Vivo Results

**Multiple Pathways, Multiple Cancers.** On several fronts, Ocean Biomedical is advancing **lung cancer treatment candidates that have the ability to target multiple tumor suppressing pathways at the same time**, and early indications show potential for multiplying the effectiveness of current immuno-oncology products, generating surprising, synergistic outcomes. Because these candidates are building on evolving understanding of how cancer cells subvert and attenuate natural immune responses, each candidate has potential application against a broad range of cancers. In a recently published independent study, the anti-CHI3L1 monoclonal has shown effectiveness in [controlling some of the most harmful pathways in the universally lethal brain cancer, glioblastoma](#). In total, Ocean Biomedical’s oncology platform has garnered 27 issued or pending patents, already covering ‘method of use’ in nine unique cancers, including prostate cancer, colon cancer, rectal cancer, ovarian cancer, kidney cancer, breast cancer, glioblastoma, melanoma, and lung cancer.



Anti-CHI3L1+Anti-CTLA4 tumor cell death via simultaneous targeting

“We are making discoveries that we believe will drive cancer research, and eventually treatment and patient outcomes, forward,” said Dr. Elias. “This pathway discovery is an unprecedented leap, because if you control CHI3L1, you don’t just control one anti-cancer pathway, you simultaneously control many anti-cancer pathways.”

“On World Lung Cancer Day, we are proud to be part of the global effort to cure this terrible disease,” commented Ocean Biomedical’s CEO, Elizabeth Ng. We are working on the systematic steps needed to progress the anti-CHI3L1 antibodies into the clinic to potentially become impactful new cancer therapeutics.”

“Non-Small Cell Lung Cancer alone affects nearly 500,000 people in the U.S.,” commented Dr. Chirinjeev Kathuria, Ocean Biomedical’s co-founder and Executive Chairman. “These discoveries have the potential to save thousands of lives of people affected not just by lung metastasis, and glioblastoma, but also other forms of cancer such as breast, prostate and melanoma.”

**About Jack A. Elias**

Dr. Jack A. Elias is the former Chair of Yale's Department of Internal Medicine, Dean Emeritus of Medicine and Biological Sciences at Brown University, and current Professor of Translational Science, Medicine and Molecular Microbiology and Immunology at The Warren Alpert Medical School of Brown University. He is a leading pulmonary care specialist and research pioneer. In 2019, Dr. Elias co-founded Ocean Biomedical with several Brown University colleagues, alumni, and experienced pharma business leaders to help address major unmet medical needs by accelerating more discovery science into needed therapeutics.

### **About Cancer Immunotherapy**

Immunotherapy is an evolving approach to cancer therapeutics that enhances traditional treatments by activating a person's own immune system to fight cancer. Immunotherapy can boost the immune system to find and attack cancer cells. Monoclonal antibodies are immune system proteins created to bind to specific targets on cancer cells or cells in the tumor growth environment. Ocean Biomedical's monoclonal antibody targets a polypeptide (CHI3L1) that is associated with accelerated tumor growth in a wide range of cancers. By suppressing CHI3L1, Ocean Biomedical has been able to suppress primary and metastatic tumor growth in multiple animal models. As reflected in the newly issued patent, this unique immunotherapy approach has potential use in multiple forms of visceral cancers.

### **About Ocean Biomedical**

Ocean Biomedical, Inc. ("Ocean Biomedical" or the "Company") is a Providence, Rhode Island-based biopharma company with an innovative business model that accelerates the development and commercialization of scientifically compelling assets from research universities and medical centers. Ocean Biomedical deploys the funding and expertise to move new therapeutic candidates efficiently from the laboratory to the clinic, to the world. Ocean Biomedical is currently developing five promising discoveries that have the potential to achieve life-changing outcomes in lung cancer, brain cancer, pulmonary fibrosis, and the prevention and treatment of malaria. The Ocean Biomedical team is working on solving some of the world's toughest problems, for the people who need it most.

To learn more, visit [www.oceanbiomedical.com](http://www.oceanbiomedical.com).

### **Forward-Looking Statements**

The information included herein and in any oral statements made in connection herewith include "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the use of words such as "estimate," "plan," "project," "forecast," "intend," "will," "expect," "anticipate," "believe," "seek," "target," or other similar expressions that predict or indicate future events or trends or that are not statements of historical matters, although not all forward-looking statements contain such identifying words. These forward-looking statements include but are not limited to: the expected timing and success of investigational new drug ("IND") filings for our initial product candidates; statements regarding the expected timing of our IND-enabling studies; the frequency and timing of filing additional INDs; expectations regarding the availability and addition of future assets to our pipeline; the advantages of any of our pipeline assets and platforms; the potential benefits of our product candidates; potential commercial opportunities; the timing of key milestones for our programs; the future financial condition, results of operations, business strategy and plans, and objectives of management for future strategy and operations; and statements about industry trends and other companies in the industry. These forward-looking statements are based on various assumptions, whether or not identified herein, and on the current expectations of the Company's management, and they are not predictions of actual performance. These forward-looking statements are provided for illustrative purposes only and are not intended to serve as, and must not be relied on by any investor as, a guarantee, an assurance, a prediction, or a definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions.

Any discoveries announced by the Company are based solely on laboratory and animal studies. The Company has not conducted any studies that show similar efficacy or safety in humans. There can be no assurances that any treatment tested by the Company will prove safe or effective in humans, and any clinical benefit of any such treatment is subject to clinical trials and ultimate approval of its use in patients by the FDA. Such approval, if granted, could be years away.

Forward-looking statements are predictions, projections, and other statements about future events that are based on current expectations and assumptions and, as a result, are subject to risks and uncertainties. These forward-looking statements are not guarantees of future performance, conditions, or results, and involve a number of known and unknown risks, uncertainties, assumptions, and other important factors, many of which are outside the control of the Company that could cause actual results or outcomes to differ materially from those discussed in the forward-looking statements. You should carefully consider the foregoing factors and the other risks and uncertainties that are described in the Company's Annual Report on Form 10-K for the year ended December 31, 2022, and in other documents to be filed by the Company from time to time with the SEC and which are and will be available at [www.sec.gov](http://www.sec.gov). These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Forward-looking statements speak only as of the date they are made. We do not undertake any obligation to update any forward-looking statements made by us. These forward-looking statements should not be relied upon as representing the Company's assessments as of any date subsequent to the date of this filing. Accordingly, undue reliance should not be placed upon the forward-looking statements.

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