



## Ocean Biomedical, Inc. (NASDAQ: OCEA) Announces Award of New Patent to Scientific Co-Founder Dr. Jake Kurtis for Novel Malaria Vaccine Target

February 28, 2023

*Breakthrough approach targets stage in malaria lifecycle responsible for all clinical disease and death, has potentially significantly greater efficacy compared with vaccines targeting other stages*

*Patent will add third potential parasite target PfCDPK-5 to Ocean Biomedical's malaria vaccine program, building on prior groundbreaking research on PfGARP and PfSEA*

*Each target has potential to induce protection by controlling a unique part of the malaria cycle and may be developed individually or in a combined formulation for maximum effectiveness*

Providence, RI, Feb. 28, 2023 (GLOBE NEWSWIRE) -- [Ocean Biomedical](#) (NASDAQ:OCEA) announced today that Scientific Co-founder and member of the board of directors Dr. Jonathan Kurtis, MD, PhD, has been awarded a new patent for his discovery related to malaria, a third parasite target called PfCDPK-5 that can potentially be used to interdict the parasite at multiple stages in the malaria cycle. This discovery builds on Dr. Kurtis' previous discoveries that have defined the powerful roles of PfGARP and PfSEA in controlling the malaria parasite's ability to replicate and grow within its human host. The latest patent is for the discovery that demonstrates the role of antibodies to PfCDPK-5 in preventing merozoites from escaping infected red blood cells and thus attenuates parasite multiplication in the bloodstream.

In recent studies [published](#) and [reviewed](#) in *Nature*, Dr. Kurtis identified [PfGARP](#) as a target of human antibodies which kill up to 100% of parasites *in vitro* by inducing apoptosis or parasite programmed cell death – this discovery forms the basis of Ocean Biomedical's lipid encapsulated mRNA-based vaccine, therapeutic monoclonal antibodies, and PfGARP targeting drugs.

Ocean's breakthrough approach targets the blood-stage portion of the malaria lifecycle – **the stage responsible for all clinical disease and death** – therefore has the potential of significantly greater efficacy compared with vaccines targeting other stages. If combined with the new target PfCDPK-5 and PfSEA, the vaccine has the potential to shut down the parasite at multiple points in its cycle. In coming months, Dr. Kurtis will work to optimize the formulation of his vaccine prior to IND submission and first in humans testing.

### **Addressing a Global Unmet Need**

In addition to this multi-pronged vaccine program, Dr. Kurtis has developed a related small molecule drug program to provide a new approach for treating the increasingly drug resistant strains of the disease. This medicine will be an additional focus of Ocean Biomedical's development pipeline in 2023 and will address a massive unmet need.

Malaria is the greatest single-agent killer of children on the planet, killing approximately 627,000 individuals in 2022. Artemisinin-based drug therapy remains the mainstay of treatment, but the spread of parasites resistant to this family of compounds threatens recent progress achieved by antimalarial campaigns and underscores the urgent need to identify new anti-malarial drugs.

Data has demonstrated that the family of small molecule drugs in development by Dr. Kurtis' team are highly specific for PfGARP binding, are non-toxic in multiple *in vitro* and *in vivo* systems, have excellent pharmacokinetic properties, and rapidly clear parasitemia in animal models.

### **Leadership Comments**

"Our current vaccine formulation has an impressive ability to induce parasite cell death and we are hopeful that this latest addition might even increase that effectiveness," commented Dr. Jake Kurtis, Scientific Co-founder of Ocean Biomedical, member of Ocean Biomedical's board of directors and Chair of Pathology and Laboratory Medicine at the Warren Alpert Medical School Brown University.

"The progress we have been able to make thus far in advancing novel targets is a testament to Ocean Biomedical's innovative model and deep partnership with premier research institutions. We are hopeful that Dr. Kurtis' discoveries will lead to a powerful vaccine that can save hundreds of thousands of lives, and we are proud to help advance this important work," said Elizabeth Ng, Chief Executive Officer of Ocean Biomedical.

"Falciparum malaria is a leading cause of death in children world-wide and our global malaria treatment strategy relies almost exclusively on artemisinin-based drugs. The recent emergence of high grade resistance to artemisinin is an existential threat to

this strategy and mandates the development of novel classes of antimalarials. We are thrilled to announce our discovery of a novel class of antimalarials which have the potential to save hundreds of thousands of lives,” said Dr. Chirinjeev Kathuria, co-founder and Executive Chairman.

“This discovery, coupled with the powerful approach in our malaria vaccine program, will lead to long term shareholder value growth and appreciation,” commented Suren Ajarapu, member of Ocean Biomedical’s board of directors.

### **About Ocean Biomedical**

Ocean Biomedical, Inc. 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, statements regarding estimates and forecasts of financial and performance metrics and expectations. These statements are based on various assumptions, whether or not identified herein, and on the current expectations of the Company’s management and 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.

The announced discoveries were based solely on laboratory and animal studies. Ocean Biomedical has not conducted any studies that show similar efficacy or safety in humans. There can be no assurances that this treatment will prove safe or effective in humans, and that any clinical benefits of this 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. Important factors, among others, that may affect actual results or outcomes include (i) the outcome of any legal proceedings that may be instituted against the Company; (ii) changes in the markets in which the Company competes, including with respect to its competitive landscape, technology evolution, or regulatory changes; (iii) changes in domestic and global general economic conditions; (iv) risk that the Company may not be able to execute its growth strategies; (v) risks related to the ongoing COVID-19 pandemic and response, including supply chain disruptions; (vi) risk that the Company may not be able to develop and maintain effective internal controls; (vii) the risk that the Company may fail to keep pace with rapid technological developments to provide new and innovative products and services or make substantial investments in unsuccessful new products and services; (viii) the ability to develop, license or acquire new therapeutics; (ix) the risk that the Company will need to raise additional capital to execute its business plan, which may not be available on acceptable terms or at all; (x) the risk that the Company experiences difficulties in managing its growth and expanding operations; (xi) the risk of product liability or regulatory lawsuits or proceedings relating to the Company’s business; (xii) the risk of cyber security or foreign exchange losses; (xiii) the risk that the Company is unable to secure or protect its intellectual property.

The foregoing list of factors is not exhaustive. 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, 2021 and its Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, and which are described in the “Risk Factors” section of the Company’s definitive proxy statement filed by the Company on January 12, 2023, and 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. Readers are cautioned not to put undue reliance on forward-looking statements. 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.

Ocean Biomedical Investor Relations  
[OCEANIR@westwicke.com](mailto:OCEANIR@westwicke.com)

Ocean Biomedical Media Relations  
[OCEANPR@westwicke.com](mailto:OCEANPR@westwicke.com)

Kevin Kertscher  
Communications Director