

December 8, 2021



Oragenics Co-Authors a Publication Describing the Dual Mechanism of Action of Lantibiotics

Molecular modeling offers additional insights enabling the design and development of novel antibiotics.

TAMPA, Fla.--(BUSINESS WIRE)-- **Oragenics, Inc. (NYSE American: OGEN)** ("**Oragenics**" or the "**Company**") in collaboration with researchers from Florida International University's Department of Physics and Biomolecular Sciences Institute, today announced the publication of a study entitled "Lipid II Binding and Transmembrane Properties of Various Antimicrobial Lanthipeptides." The study was published in the Journal of Chemical Theory and Computation (<https://doi.org/10.1021/acs.jctc.1c00666>). The alarming rise in antibiotic resistant infections in recent years and the dire need for the development of new antimicrobials is globally recognized. Oragenics' lantibiotics are promising candidates to fight antibiotic-resistant bacteria due to their unique and dual mode of action, including interference with cell wall synthesis by binding to Lipid II and creation of unique pores in bacterial membranes. In this publication, atomic-scale molecular dynamics computational studies were used to compare both the Lipid II binding ability and the membrane interactions of several lanthipeptides, demonstrating the unique properties of Oragenics' lantibiotics and unveiling a rational path to improve the therapeutic profile of our compounds.

"We continue to expand our lantibiotic pipeline in order to create new ways of fighting antibiotic-resistant infections," stated Frederick W. Telling, Ph.D., Executive Chairman of Oragenics. Dr. Telling added, "This publication provides us with additional insight on how to exploit the unique properties of our compounds, which we hope may ultimately result in the development of drugs with a broader spectrum of activity that include Gram-negative infections."

About Oragenics, Inc.

Oragenics, Inc. is a development-stage company dedicated to fighting infectious diseases including coronaviruses and multidrug-resistant organisms. Its lead product is Terra CoV-2, a vaccine candidate to prevent COVID-19 and variants of the SARS-CoV-2 virus. The Terra CoV-2 program leverages coronavirus spike protein research licensed from the NIH and the National Research Council of Canada NRC with a focus on addressing supply-chain challenges, and offering more patient-friendly administration, such as intranasal. Its lantibiotics program features a novel class of antibiotics against infectious diseases that have developed resistance to commercial antibiotics.

Forward-Looking Statements

This communication contains “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on management’s beliefs and assumptions and information currently available. The words “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project” and similar expressions that do not relate solely to historical matters identify forward-looking statements. Investors should be cautious in relying on forward-looking statements because they are subject to a variety of risks, uncertainties, and other factors that could cause actual results to differ materially from those expressed in any such forward-looking statements. These factors include, but are not limited to, the following: the Company’s ability to advance the development of Terra CoV-2 and lantibiotics under the timelines and in accord with the milestones it projects; the Company’s ability to obtain funding, non-dilutive or otherwise, for the development of the vaccine product candidate, Terra CoV-2 and our lantibiotics, whether through its own cash on hand, or another alternative source; the regulatory application process, research and development stages, and future clinical data and analysis relating to Terra CoV-2 and lantibiotics, including any meetings, decisions by regulatory authorities, such as the FDA and investigational review boards, whether favorable or unfavorable; the potential application of Terra CoV-2 to variants and other coronaviruses; the Company’s ability to obtain, maintain and enforce necessary patent and other intellectual property protection; the nature of competition and development relating to COVID-19 immunization and therapeutic treatments and demand for vaccines and antibiotics; the Company’s expectations as to administration, manufacturing, storage and distribution; other potential adverse impacts due to the global COVID-19 pandemic, such as delays in regulatory review, interruptions to manufacturers and supply chains, adverse impacts on healthcare systems and disruption of the global economy; and general economic and market conditions and risks, as well as other uncertainties described in our filings with the U.S. Securities and Exchange Commission. All information set forth in this press release is as of the date hereof. You should consider these factors in evaluating the forward-looking statements included in this press release and not place undue reliance on such statements. We do not assume any obligation to publicly provide revisions or updates to any forward-looking statements, whether as a result of new information, future developments or otherwise, should circumstances change, except as otherwise required by law.

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