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Ensysce Biosciences Announces First Peer-Reviewed Clinical Publication Demonstrating Oral Overdose Protection with MPAR(R) Technology

~ Phase 1 Data Published in Journal of Opioid Management Validates First-in-Class Overdose-Limiting Opioid Technology of PF614-MPAR ~

SAN DIEGO, CA / [ACCESS Newswire](#) / March 3, 2026 / [Ensysce Biosciences, Inc.](#) (NASDAQ:ENSC) ("Ensysce" or the "Company"), a clinical-stage pharmaceutical company pioneering next-generation pain and central nervous system therapeutics designed to minimize risk of abuse and overdose, today announced the publication of the first clinical manuscript describing its MPAR® (Multi-Pill Abuse Resistance) overdose protection technology.

The paper, titled "Formulation and a Phase 1 Clinical Study of PF614-MPAR, an Oxycodone Prodrug with Oral Opioid Overdose Protection," appears online in the Journal of Opioid Management Jan/Feb 2026 issue.

<https://wmpllc.org/ojs/index.php/jom/article/view/3977>

PF614-MPAR is the first opioid candidate specifically designed to provide active protection against oral overdose—a limitation not addressed by currently marketed abuse-deterrent formulations. MPAR® technology is engineered to maintain therapeutic opioid exposure when taken as prescribed while automatically limiting additional opioid release when excessive numbers of pills are consumed.

Data presented in the publication demonstrate that PF614-MPAR achieved appropriate opioid plasma levels under normal dosing conditions, while preventing large increases in opioid delivery when supratherapeutic doses were administered. These findings support the potential for a fundamentally new safety paradigm in opioid analgesia. MPAR® previously received Breakthrough Therapy Designation from the U.S. Food and Drug Administration (FDA) in January 2024 based on this clinical evidence and the technology is protected by a growing intellectual property portfolio extending through 2042.

"This peer-reviewed publication marks a defining milestone not only for Ensysce, but for the field of pain medicine," said Dr. Lynn Kirkpatrick, Chief Executive Officer of Ensysce. "CDC data projects that almost 80,000 people die every year from opioid overdose of which prescription opioids factor into 12.4% of these deaths¹. These numbers, which amount to 30 deaths per day, are still considered a major health crisis. Importantly, to combat against overdose, MPAR® introduces a new class of chemically programmed opioids designed to protect patients even when dosing errors or misuse occur."

The clinical work reported in this publication allowed for the optimization of the MPAR® formulation and the confirmation that the overdose-limiting mechanism functions as intended in humans. The continued support from the National Institute on Drug Abuse² helped enable this study and the ongoing second clinical trial evaluating the MPAR® technology.

Beyond opioid analgesics, Ensysce is advancing MPAR® across additional therapeutic categories-including amphetamines and methadone-with the goal of developing safer treatments for pain, attention-deficit/hyperactivity disorder (ADHD), and opioid use disorder.

¹ <https://drugabusestatistics.org/opioid-epidemic/>

² Research supporting this patent was funded by the National Institute on Drug Abuse of the National Institutes of Health under Award Number DA047682.

About Ensysce Biosciences

Ensysce Biosciences is a clinical-stage company with a goal of disrupting the analgesic landscape by introducing a new class of highly novel opioids for the treatment of severe pain. Leveraging its Trypsin-Activated Abuse Protection (TAAP™) and Multi-Pill Abuse Resistance (MPAR®) platforms, the Company is developing unique, tamper-proof treatment options for pain that minimize the risk of both drug abuse and overdose. Ensysce's products are anticipated to provide safer options to treat patients suffering from severe pain and assist in preventing deaths caused by medication abuse. For more information, please visit www.ensysce.com.

Forward-Looking Statements

Statements contained in this press release that are not purely historical may be deemed to be forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. Without limiting the foregoing, the use of words such as "may," "intends," "can," "might," "will," "expect," "plan," "possible," "believe" and other similar expressions are intended to identify forward-looking statements. The product candidates discussed are in clinic and not approved and there can be no assurance that the clinical programs will be successful in demonstrating safety and/or efficacy, that Ensysce will not encounter problems or delays in clinical development, or that any product candidate will ever receive regulatory approval or be successfully commercialized. All forward-looking statements are based on estimates and assumptions by Ensysce's management that, although Ensysce believes to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that Ensysce expected. In addition, Ensysce's business is subject to additional risks and uncertainties, including among others, possible NASDAQ delisting, the initiation and conduct of preclinical studies and clinical trials; the timing and availability of data from preclinical studies and clinical trials; expectations for regulatory submissions and approvals; potential safety concerns related to, or efficacy of, Ensysce's product candidates; the availability or commercial potential of product candidates; continuation of government funding; the ability of Ensysce to fund its continued operations, including its planned clinical trials; the dilutive effect of stock issuances from our fundraising; and Ensysce's and its partners' ability to perform under their license, collaboration and manufacturing arrangements. These statements are also subject to a number of material risks and uncertainties that are described in Ensysce's most recent quarterly report on Form 10-Q and current reports on Form 8-K, available free of charge at

the SEC's website at www.sec.gov. Any forward-looking statement speaks only as of the date on which it was made. Ensysce undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required under applicable law.

Ensysce Biosciences Company Contact:

Lynn Kirkpatrick, Ph.D.
Chief Executive Officer
(858) 263-4196

Ensysce Biosciences Investor Relations Contact:

Shannon Devine
MZ North America
Main: 203-741-8811
ENSC@mzgroup.us

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