Papyrus Therapeutics Study Strengthens Therapeutic Rationale for OPCML Protein Replacement Therapy in Ovarian Cancer

AI-driven transcriptomic analysis of 189 patient tumors reveals OPCML's control of tumor-growth pathways and identifies new therapeutic targets

WEST CHESTER, PA, UNITED STATES, July 17, 2025 /EINPresswire.com/ -- Papyrus Therapeutics, a privately held biotechnology company developing therapies that restore the body's native tumor suppression mechanisms, today announced the publication of peer-reviewed research that expands the scientific foundation for its lead program targeting OPCML tumor suppression in ovarian cancer. The study appears in Current Issues in Molecular Biology and is accessible at https://www.mdpi.com/1467-3045/47/6/405 (DOI: 10.3390/cimb47060405).

Using advanced machine-learning techniques to analyze RNA-seq data from 189 Stage III ovarian tumors in The Cancer Genome Atlas, Papyrus researchers identified OPCML's wide-ranging influence across cellular pathways tied to tumor progression and patient outcomes. The findings reinforce the therapeutic potential of restoring OPCML function in tumors in which it is frequently epigenetically silenced, a common feature in high-grade serous ovarian cancers.

"Our analysis underscores OPCML's broad control over key cancer-related pathways, including immune signaling and growth regulation," said Adam Marsh, PhD, lead author of the study and Head of Artificial Intelligence/Machine Learning (AI/ML) at Papyrus. "These insights support the rationale for a protein replacement strategy that could impact multiple tumor-growth mechanisms simultaneously."

Key findings from the study include:
- Multifunctional role: OPCML was transcriptionally linked to 242 biological functions across all tumor samples.
- New therapeutic targets: Three RTKs – KIT, TEK and ROS1 – were newly associated with OPCML, expanding its previously known RTK interactions.
- Patient survival correlation: High OPCML expression was significantly associated with improved patient survival.
- Extracellular localization: OPCML-linked proteins were predominantly found at the cell surface supporting the company's development strategy for intravenous protein replacement therapy.

"This publication represents a significant milestone in validating our approach of following the

science," said Hani Gabra, PhD, FRCP, founder and chief scientific officer of Papyrus Therapeutics. "This research confirms OPCML's wide-reaching role as a multifunctional tumor suppressor—broader than previously recognized—and supports our conviction that OPCML protein replacement is a fundamentally new approach to treat solid tumors."

This study builds on decades of OPCML research, including seminal discoveries from Prof. Gabra's research that first linked OPCML to ovarian cancer. The study's methodology and findings have been made publicly available to support broader scientific research into tumor suppressor biology.

About Papyrus Therapeutics

Papyrus Therapeutics is pioneering a new modality for cancer treatment by developing first-in-class oncology therapies to address unmet needs, first in ovarian cancer and then in other solid tumors. The company's development program is based on decades of research into the significant role of opioid-binding protein/cell adhesion molecule-like (OPCML), a native cell-surface tumor suppressor that is lost in many solid tumors, including the majority of ovarian cancers. The company's novel approach repairs OPCML's native tumor suppressor function at the cell surface to shrink tumors. Papyrus' lead investigational candidate PYTX-004 (recombinant OPCML protein replacement therapy) has shown potent anti-tumor activity in preclinical in vivo human ovarian cancer PDX models, achieving a 93% reduction in tumor size, with no observed toxicity or adverse effects.

Dan Boyle
Orangefiery
+1 818-209-1692
dan@orangefiery.com

This press release can be viewed online at: https://www.einpresswire.com/article/831286697

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.
© 1995-2025 Newsmatics Inc. All Right Reserved.