Cellworks Expands Evidence for Predicting Chemo-Immunotherapy Benefit in NSCLC with New Early-Stage Disease Study

New study presented at AACR 2026 supports the predictive validly of Cellworks' mechanistic AI platform in early-stage NSCLC

SAN DIEGO, CA, UNITED STATES, April 22, 2026 /EINPresswire.com/ -- Cellworks Group Inc., the leader in Personalized Therapy Solutions across the Drug Development and Clinical Care Lifecycle, today announced a new clinical study showing that the Cellworks Platform can identify which patients with early-stage non-small cell lung cancer (NSCLC) are most likely to benefit from the addition of chemotherapy to immune checkpoint inhibitors (ICIs). The findings extend Cellworks' landmark myCare-040 study in metastatic NSCLC and show that the same underlying molecular mechanisms used to predict chemotherapy benefit in advanced disease may also apply in earlier-stage disease.

Results from this study were presented at the AACR 2026 Annual Meeting in San Diego, California, as poster #5252, titled "Computational Modeling of Comprehensive Genomic Profiling to Predict Chemo-Immunotherapy Benefit in Early-Stage NSCLC."

"This study provides important evidence that the biological mechanisms associated with chemotherapy benefit in NSCLC may be conserved across disease stages," said Tejas Patil, MD, Assistant Professor of Medicine-Medical Oncology at the University of Colorado School of Medicine and principal investigator of the study. "These findings suggest that the biology underlying chemotherapy benefit may extend beyond advanced disease. While further validation is needed, the results indicate that tumor biology may influence response to therapy in a consistent way across different stages of NSCLC, reinforcing the value of more personalized approaches to treatment selection."

Cellworks previously demonstrated in the myCare-040 clinical study that its platform could distinguish metastatic NSCLC patients likely to benefit from chemo-immunotherapy from those unlikely to benefit from the addition of chemotherapy. In this new early-stage disease study, Cellworks evaluated whether the same mechanistic AI framework could predict benefit in a real-world cohort of early-stage NSCLC patients receiving adjuvant ICI or ICI plus chemotherapy

(ICI+C).

Key Findings

• ΔTRI Predicts Differential Treatment Benefit: ΔTRI was significantly associated with differential overall survival (OS) benefit from the addition of chemotherapy to immune checkpoint inhibitor (ICI) therapy, with a statistically significant interaction observed between continuous ΔTRI and treatment type.
• ΔTRI Identifies Patients Most Likely to Benefit: Patients in the ΔTRI High Benefit group experienced a 19.4-month improvement in median OS when chemotherapy was added to ICI, demonstrating the model's ability to identify patients most likely to benefit from intensified therapy.
• No Benefit for Low ΔTRI Patients: Patients in the ΔTRI No Benefit group derived no survival advantage from the addition of chemotherapy, highlighting the model's potential to identify patients who may avoid unnecessary treatment intensification.
• Guiding Personalized Treatment Selection: ΔTRI distinguished patients likely to benefit from chemo-immunotherapy versus immunotherapy alone.

"What makes this study especially encouraging is that it suggests the underlying biology associated with chemotherapy benefit may remain relevant even as the disease setting changes," said James Wingrove, PhD, Chief Development Officer at Cellworks, and co-author of the study. "That consistency is important because it supports the idea that mechanistic modeling can reveal patterns of treatment response that extend beyond a single clinical context. These findings strengthen the scientific rationale for applying this approach more broadly across the NSCLC treatment continuum."

Study Design

To conduct the analysis, researchers applied the previously validated ΔTRI algorithm and its clinical threshold to 51 non-squamous, early-stage NSCLC patients (Stage I=20, Stage II=12, Stage IIIA=19). The algorithm uses Cellworks' mechanistic model of a patient's tumor genomics to predict biomarker changes associated with disease progression and potential benefit from chemo-immunotherapy.

The Cellworks Platform

The Cellworks Platform applies mechanistic AI to perform computational biosimulation of protein-protein interactions, enabling in silico modeling of tumor behavior using genomic data from next-generation sequencing (NGS). This approach allows clinicians to evaluate how personalized treatment strategies interact with a patient's unique tumor network. At the core of the platform is the Cellworks Computational Biology Model (CBM), a mechanistic network encompassing more than 6,000 human genes, 30,000 molecular species, and 600,000 molecular interactions. The CBM and its drug models biosimulate how specific compounds or

combinations affect disease pathways, producing a therapy response prediction that can guide treatment selection. The CBM has been validated across multiple clinical datasets, with findings featured in more than 125 peer-reviewed presentations and publications in collaboration with global partners.

About Cellworks Group

Cellworks Group, Inc. is dedicated to improving patient outcomes by harnessing the power of computational science to deliver Personalized Therapy Solutions across the Drug Development and Clinical Care Lifecycle. The Cellworks Platform predicts patient-specific therapy response for oncology and other complex diseases using a mechanistic Computational Biology Model (CBM), AI and biosimulation technology. Cellworks is backed by Artiman Ventures, Bering Capital, Sequoia Capital, UnitedHealth Group and Agilent Ventures. Headquartered in South San Francisco, the company also operates a CLIA-certified computational lab in Franklin, Tennessee. Learn more at www.cellworks.life.

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