



CancerTYPE ID® Prospective Trial Published in ASCO Journal of Precision Oncology

Treatment decisions changed in 47% of patients after incorporation of test results

Study underscores the importance of tumor typing to inform treatment decisions in patients with diagnostic dilemmas

SAN DIEGO, March 19, 2018 -- Biotheranostics, Inc., reports publication in JCO Precision Oncology of a prospective, multi-institutional, clinical utility study evaluating the impact of CancerTYPE ID on final diagnosis and treatment in patients with an unknown or unclear metastatic cancer diagnosis. Findings demonstrated that integration of CancerTYPE ID results led to a change in treatment in nearly every other patient, further underscoring the important role of definitive diagnosis based on tumor type in treatment selection, particularly with increasing options for targeted therapies.

The study included 444 patients from 107 physicians across 28 sites nationwide utilizing CancerTYPE ID in their routine clinical practice representing a broad spectrum of clinical presentations. Cases ranged from those with a single suspected tumor type, to those with a differential diagnosis of two or more tumor types, to Cancer of Unknown Primary. Regardless of the pre-assay working diagnosis, CancerTYPE ID provided new information in up to 40% of cases across the spectrum of diagnostic ambiguity and narrowed the diagnosis in two-thirds of patients with a difficult differential diagnosis of two or more tumor types. More importantly, CancerTYPE ID provided information to help physicians alter overall treatment recommendations for 47% of patients. The changes in recommended treatments occurred most frequently for patients with gastrointestinal, gynecological and breast tumor types wherein up to 58% of treatments changed after incorporation of the CancerTYPE ID results.

Three quarters of patients in the study received anti-cancer treatment, and a quarter of patients received targeted therapy after testing with CancerTYPE ID. "These findings highlight the continued importance of tumor classification and cellular context as significant pieces towards precision-based therapy selection," said Catherine Schnabel, Chief Scientific Officer, Biotheranostics. "Consistent with other studies," she continued, "CancerTYPE ID provided a

Study Presented at ASCO 2016 Shows Clinical Utility of Biotheranostics' CancerTYPE ID in Predicting Tumor Type & Aiding in Treatment Optimization for Metastatic Cancer Patients, Page 2

molecular tumor type prediction in 97% of cases, and is a tissue-sparing technology that affords additional downstream biomarker testing for a significant number of patients."

Sachdev Thomas, MD, hematologist oncologist and lead author of the publication stated, "Between 50,000-100,000 patients in US each year have some level of diagnostic ambiguity associated with their metastatic cancer diagnosis. We, the oncology community, see these patients on a daily basis. Appropriate and successful treatment is dependent on knowing both the tumor type from which the cancer began, then understanding the mutations that may drive a particular tumor. CancerTYPE ID continues to demonstrate the strongest level of evidence to help us identify these elusive tumors and improve outcomes in these most vulnerable of patients."

Access the full study.

About CancerTYPE ID®

CancerTYPE ID is the market-leading molecular, gene expression-based test focused on the classification of metastatic cancer and aids in the determination of tumor type and subtype of cancers with diagnostic uncertainty, in conjunction with standard clinical and pathological assessment. Commercially launched in 2010, CancerTYPE ID is a standardized, objective molecular test based on the differential expression of 92 genes that classifies tumors by matching the gene expression pattern of a tumor specimen to a database of known tumor types and histological subtypes. CancerTYPE ID is able to classify 50 cancer types and subtypes, representing more than 95 percent of all solid tumors based on incidence. Learn more at www.cancertypeid.com.

About Biotheranostics

Biotheranostics, Inc. operates a CLIA-certified, CAP-accredited diagnostic laboratory in San Diego, California. Biotheranostics, Inc., is a leading healthcare provider in the oncology field assisting physicians in the treatment of cancer patients. Its suite of proprietary molecular diagnostic tests provides important information to physicians to tailor treatment to individual patients. The company's Breast Cancer IndexSM and CancerTYPE ID® tests address a variety of unmet medical needs in the management of cancer patients, and the accuracy, clinical validity, clinical utility, and cost-effectiveness of the tests have been confirmed across extensive clinical studies. Learn more at biotheranostics.com.