**To:** Dartmouth Health Providers

**From:**  Laura Tafe, MD, CGAT Associate Director, Director of Medical Oncology; Parth Shah, MD, Director, CGAT Genomic Informatics; Arief Suriawinata, Interim CGAT Director

**Date:** 5/1/25

**Re:** DH-ctDNASeq (circulating tumor DNA/liquid biopsy assay) go-live    

The DH Laboratory for Clinical Genomics and Advanced Technology (CGAT) now provides next generation sequencing (NGS) for detection of circulating tumor DNA from plasma using the DH-ctDNASeq assay. Effective immediately, the ctDNASeq assay will be available for patients with solid tumors. The assay will cover single nucleotide variants (SNVs) and insertions/deletions (indels) in 46 genes:

AKT1, ALK, APC, AR, ARID1A, ATM, BAP1, BRAF, BRCA1, BRCA2, BTK, CCND1, CDH1, CDK12, CDK4, CDK6, CDKN2A, CHEK2, CTNNB1, EGFR, ERBB2, ESR1, EZH2, FGFR1, FGFR2, FGFR3, FOXL2, GNA11, GNAQ, GNAS, HRAS, IDH1, IDH2, KIT, KRAS, MAP2K1, MAP2K2, MET, MTOR, MYC, MYCN, NF1, NOTCH1, NOTCH2, NRAS, NRG1, PDGFRA, PIK3CA, PIK3R1, PTCH1, PTEN, PTPN11, RB1, RET, ROS1, SMAD4, SMARCB1, SMO, STK11, TERT, TP53, TSC1, TSC2, VHL

**Sample specifications:** Due to specimen stability, blood samples must be drawn at 3K at Dartmouth Hitchcock Medical Center, Lebanon.

**Limitations:** The current assay iteration will not identify copy number variants (CNVs), TMB, MSI or gene fusions. The limit of detection is 0.5% variant allele fraction (VAF).

**For questions or additional information, please contact:** Laura Tafe, Parth Shah, Heather Steinmetz (CGAT manager) or Samantha Allen (CGAT supervisor) in the Department of Pathology and Laboratory Medicine.