press@guardanthealth.com

Backgrounder: Guardant360 Response™ Liquid Biopsy Test to Assess Treatment Response

New Guardant360 Response™ blood test offers oncologists an earlier view of how their patients with advanced cancer are responding to treatment

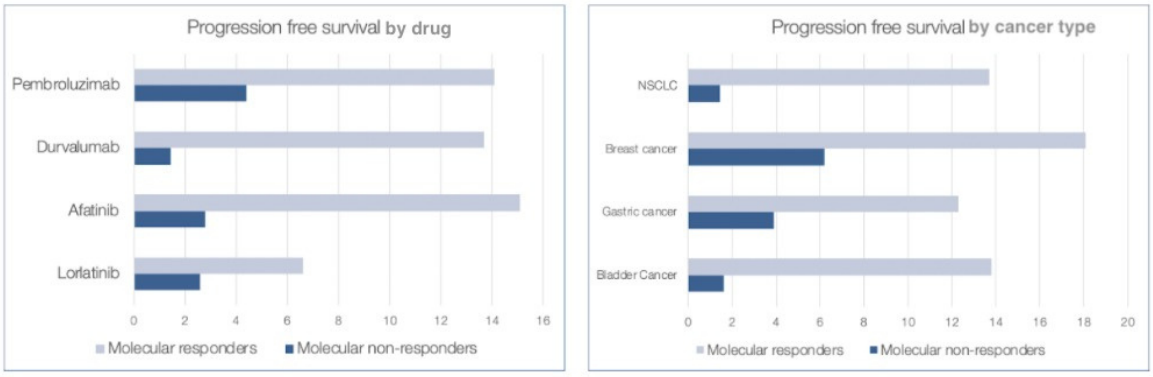
For oncologists treating patients with advanced cancer, time is of the essence. Knowing early and confidently if a patient's treatment is working is critical in considering whether to continue, stop, or explore other options. Currently, oncologists use radiographic assessment to see if their patient's tumors are shrinking or growing after treatment.

The cutting-edge Guardant360 Response™ test is the first blood-only liquid biopsy enabling oncologists to view changes in circulating tumor DNA (ctDNA) levels from a simple blood draw to assess early whether a patient is responding to immunotherapy or targeted treatment. Studies across cancers and therapies show the Guardant360 Response test can detect changes in ctDNA and predict treatment response 8 weeks earlier than current standard-of-care scans.[1-10]

Studies using the Guardant360 Response test show molecular response predicts progression-free survival[1-10]

- In multiple studies, molecular responders show significantly longer progression-free survival (PFS) rates compared to molecular non-responders across therapies and cancer types[1-10] (Chart 1)
  - If ctDNA levels decrease 50% or more (*molecular responders*), treatment is likely working
  - If ctDNA levels increase (*molecular non-responders*), treatment is likely not working and the next course of clinical action may be considered by the oncologist

Chart 1: Significantly longer PFS in molecular responders compared to molecular non-responders across therapy class and cancer types[1-10]



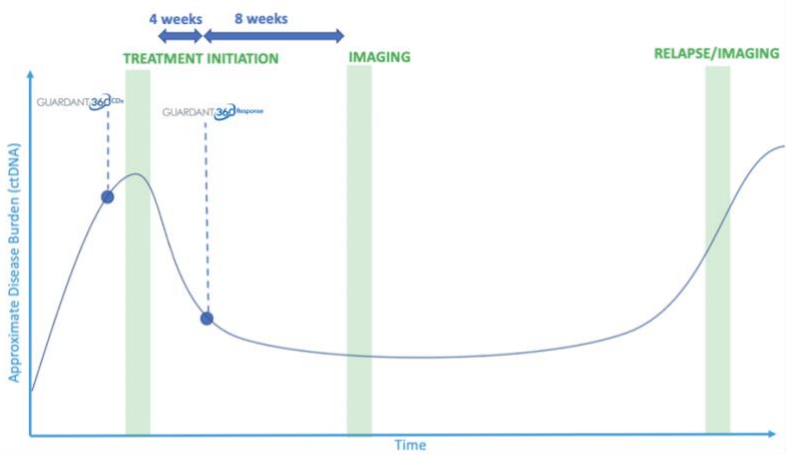
The Guardant360 Response test predicts treatment response on average 8 weeks earlier than RECIST

- Traditionally, RECIST (Response Evaluation Criteria in Solid Tumors) is the standard way for oncologists to measure patient treatment response and is based on whether tumors change in size. To use RECIST, there must be at least one tumor that can be measured on X-rays, computerized tomography (CT) scans, or magnetic resonance imaging (MRI) tests
- Studies show molecular response as measured by the Guardant360 Response test can assess a patient's treatment response 8 weeks earlier than standard-of-care scans assessing tumor response using RECIST measurements[1-10]

By using the Guardant360 Response test together with the Guardant360 CDx test, oncologists now have an optimized solution from treatment selection to treatment response monitoring

With both commercially available tests, Guardant Health now offers an end-to-end solution that empowers oncologists with insights to help them make first- and second-line treatment decisions with the FDA-approved Guardant360 CDx test, and then monitor treatment response with the Guardant360 Response test.

Chart 2: Guardant Health helps oncologists manage patients from treatment selection to treatment monitoring [1-10]



Summary of benefits of Guardant360 Response test:

- Gives oncologists confidence ahead of scans that treatment is working (when ctDNA levels are decreasing)
- Allows oncologists to start planning next course of clinical action earlier (when ctDNA levels are increasing)
- Can also complement and aid interpretation of radiographic response by combining molecular information
- Used with the Guardant360 CDx test, helps manage patients from treatment selection to response monitoring

The Guardant360 portfolio of tests provides a complete genomic view at every step of the treatment journey

Since 2014, our Guardant360 test has been widely adopted for blood-based genomic testing by more than 9,000 oncologists in over 150,000 tests performed to date. For oncologists treating patients with advanced cancer, the Guardant360 portfolio provides a more complete genomic picture across the treatment journey. The comprehensive set of cancer tests empowers oncologists to optimize treatment and know confidently what to do next. From fast treatment selection with the FDA-approved Guardant360 CDx test, to efficient reflex testing with the Guardant360 TissueNext test, to assessing early treatment response with the Guardant360 Response test, the Guardant360 portfolio helps oncologists unlock the full potential of precision oncology to ensure no patient is left behind.

REFERENCES:

1. Raja R, Kuziora M, Philip Z. Brohawn PZ, et al. Early Reduction in ctDNA Predicts Survival in Patients with Lung and Bladder Cancer Treated with Durvalumab. *Clin Cancer Res*; 2018: 24(24): 6212-6222. DOI: 10.1158/1078-0432.CCR-18-0386.
2. Aggarwal C,Thompson JC, Chien A, et al. Dynamic monitoring of circulating tumor DNA next-generation gene sequencing as a predictive biomarker of response and progression-free survival after pembrolizumab monotherapy in patients with advanced NSCLC.*J Clin Oncol*; 2019: 37:15 suppl, 3040-3040. DOI:10.1200/JCO.2019.37.15.
3. Kim ST, Cristescu R, Bass AJ, et al. Comprehensive molecular characterization of clinical responses to PD-1 inhibition in metastatic gastric cancer. *Nat Med*; 2018: 24(9):1449-1458. DOI: 10.1038/s41591-018-0101-z.
4. Shaw AT, Martini JF, Besse B, et al. Early circulating tumor (ct)DNA dynamics and efficacy of lorlatinib in patients (pts) with advanced ALK-positive non-small cell lung cancer (NSCLC). *J Clin Oncol*; 2019: 37:15_suppl, 9019-9019. DOI: 10.1200/JCO.2019.37.15.
5. Pascual J, Cutts RJ, Kingston B, et al. Assessment of early ctDNA dynamics to predict efficacy of targeted therapies in metastatic breast cancer: Results from plasmaMATCH trial [abstract]. In: Proceedings of the 2020 San Antonio Breast Cancer Virtual Symposium; 2020 Dec 8-11; San Antonio, TX. Philadelphia (PA): AACR; Cancer Res 2021;81(4 Suppl):Abstract nr PS5-02.DOI: 10.1158/1538-7445.SABCS20-PS5-02.
6. Mack PC, Redman MW, Moon J, et al. Residual circulating tumor DNA (ctDNA) after two months of therapy to predict progression-free and overall survival in patients treated on S1403 with afatinib +/- cetuximab.*J Clin Oncol;* 2020: 38:15_suppl, 9532-9532. DOI: 10.1200/JCO.2020.38.15.
7. Maron SB, Chatila WK, Millang BM, et al, Pembrolizumab with trastuzumab and chemotherapy (PTC) in HER2-positive metastatic esophagogastric cancer (mEG): Plasma and tumor-based biomarker analysis. *J Clin Oncol;* 2020: 38:15_suppl, 4559-4559. DOI: 10.1200/JCO.2020.38.15.
8. Modi S, Park H, Murthy RK, et al. Antitumor Activity and Safety of Trastuzumab Deruxtecan in Patients With HER2-Low-Expressing Advanced Breast Cancer: Results From a Phase Ib Study. *J Clin Oncol;* 2020: 38(17):1887-1896. DOI: 10.1200/JCO.19.02318.
9. Zhang Q, Luo J, Wu S, et al. Prognostic and Predictive Impact of Circulating Tumor DNA in Patients with Advanced Cancers Treated with Immune Checkpoint Blockade. *Cancer Discov*; 2020: 10:12, 1842-1853. DOI: 10.1158/2159-8290.CD-20-0047.
10. Thompson JC, Carpenter EL, Silva BA, et al. Serial Monitoring of Circulating Tumor DNA by Next-Generation Gene Sequencing as a Biomarker of Response and Survival in Patients With Advanced NSCLC Receiving Pembrolizumab-Based Therapy. *JCO Precis*; 2021: 5, 510-524. DOI: 10.1200/PO.20.0032.