

# Small RNA blood test for response prediction in lung cancer



Personalized medicine offers the promise to identify the right drug to give to the right patient. This is urgently needed in advanced stage non-small cell lung cancer (NSCLC), where the most effective immunotherapy (IO) drugs are only beneficial in ~30% of patients. Choosing who should be treated with IO versus immunotherapy in combination with chemotherapy (ICT) is a clinical dilemma.

Hummingbird's blood-based **miRisk signature** is specifically predictive of response to immunotherapy and could serve as a **complementary diagnostic to guide treatment decisions**. This allows physicians to more accurately decide how to treat patients and reduce costs, complications, and side effects as well as lead to **improved patient outcomes**.

## Solution

- Therapy selection support
- Harnessing the potential of small RNAs from both tumor and host immune response to understand the patient's immune system and enable optimized therapy selection
- Identify patients who can be treated with immunotherapy alone vs immunotherapy combined with chemotherapy
- The right therapy selection has the potential to improve cancer patient outcomes and reduce health system costs

## Clinical validation

- 155 patient study with high programmed death-ligand 1 (PD-L1) expression
- **Objective:** Determine if small RNA biomarkers can stratify PD-L1 high patients for response to immunotherapy – research the utility for treatment guidance
- **Result:** Hummingbird's miRisk small RNA signature may serve as a predictive biomarker for immunotherapy response and identify high risk patients who may benefit from the synergistic action of ICT as opposed to immunotherapy alone.

## References

- A blood-based miRNA complementary diagnostic predicts immunotherapy efficacy in advanced stage NSCLC with PD-L1 TPS  $\geq 50\%$  Rajakumar T, et al., *JTO Clinical and Research Reports* 2022
- A blood-based miRNA signature with prognostic value for overall survival in advanced stage non-small cell lung cancer treated with immunotherapy Rajakumar T, et al., *npj Precision Oncology* 2022

