Pan-cancer biomarkers for early tumor detection via liquid biopsy

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Challenge

- Telomere fusions (TFs) can lead to genomic rearrangements and play a role in tumor evolution across various cancer types.
- Despite their relevance in oncology (e.g. mediating resistance to chemotherapy), a deeper understanding of TFs and their application in human cancer diagnosis & therapy remains limited.

Intellectual Property

A PCT was filed in 12/ 2022.

Commercial Opportunity

Available for out-licensing. In addition, we offer a technology evaluation program and a collaboration/ co-development opportunity.

Further Reading

Muyas et al., *Nat Commun* 15, 82 (2024)
https://doi.org/10.1038/s41467-023-44287-8

Technology

- Improved biomarker to identify ALT pathway-driven cancers compared to c-circle assay.
- Improved resolution of TF screening compared to PCR.
- Highly specific, reliable, minimally invasive, early detection of cancer in blood, now also for cancer types with high unmet clinical need for early detection, e.g. pediatric, sarcomas and brain tumors.
- Comparable performance across cancer stages.
- Potential companion diagnostic for ALT pathway-targeting drugs.

Features

- ✓ Locally running machine learning classifier to predict the probability of cancer presence without connecting to databases or the internet.
- ✓ Validated via ~10,000 whole genome sequencing datasets.
- ✓ Sensitivity and false positive rate comparable to recent liquid biopsy analysis methods.
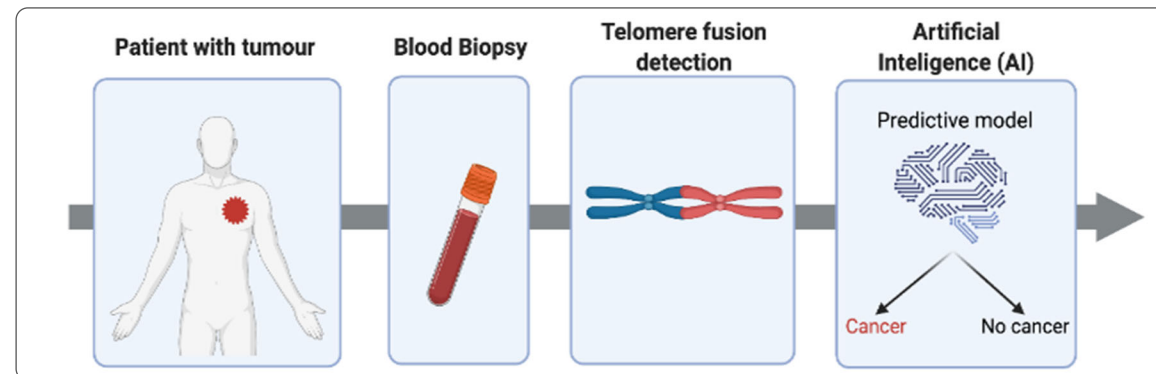
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