

Early pancancer biomarkers for liquid biopsy & computational tools for early tumor detection



Challenge

- Telomere fusions (TFs) can lead to genomic rearrangements and have been shown to play a critical role in several types of cancer.
- Despite their relevance in oncology, a deeper understanding of TFs in human cancer remains limited, although the early detection of tumors is critical for cancer treatment and prognosis.

Intellectual Property

A priority patent application has been filed in December 2021.

Commercial Opportunity

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

Further Reading

The ALT pathway generates telomere fusions that can be detected in the blood of cancer patients; Muyas et al., [bioRxiv](https://doi.org/10.1101/2022.03.15.480000), 2022

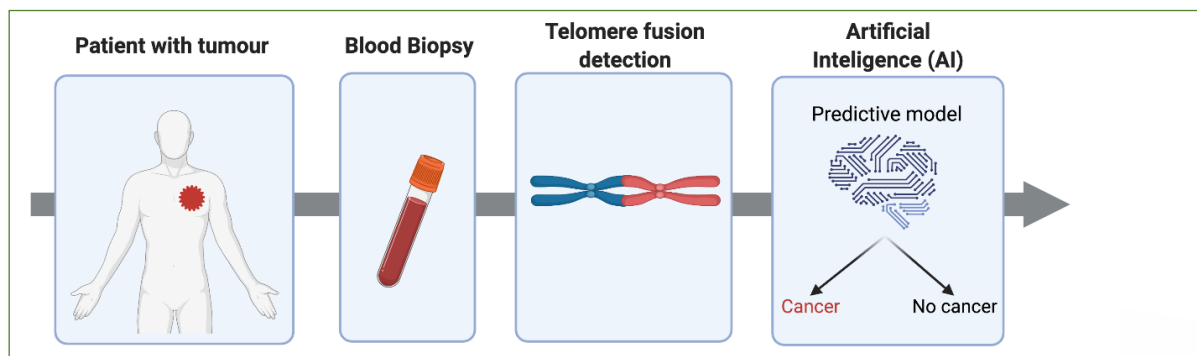


Technology

Novel telomere fusion biomarker

- Detectable in the blood of cancer patients while absent in the blood from healthy donors.
- Highly specific, reliable, minimally invasive, early detection of cancer, now also for cancer types with high unmet clinical need for early detection, e.g. pancreatic cancer, brain tumors
- Comparable performance across cancer stages

- Based on computational tools
- Validated based on ~10,000 whole genome sequencing datasets
- Additionally, predictive models have been established allowing for the detection of tumor presence using sequencing data from a blood sample. The sensitivity and false positive rate are comparable to recent liquid biopsy analysis methods.



Internal EMBLEM Reference

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This technology was co-invented by researchers from EMBL-EBI and CNIC

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