Frontotemporal Dementia Diagnosis Using Circulating microRNA Biomarkers

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Overview

Frontotemporal dementia (FTD) is difficult to diagnose due to overlapping symptoms with other neurodegenerative disorders, often leading to delays in treatment and clinical trial enrollment. This technology identifies a unique panel of 13 circulating microRNAs (miRNAs) in blood plasma, which serve as biomarkers for FTD. Using next-generation sequencing and machine learning, the method enables early, accurate diagnosis and improves patient selection for clinical trials.

Applications

- Early and accurate FTD diagnosis â€“ Reduces misdiagnosis and diagnostic delays
- Clinical trial stratification â€“ Identifies FTD patients for drug development studies
- Monitoring drug response â€“ miRNA biomarkers serve as pharmacodynamic indicators

Advantages

- Non-invasive and cost-effective
- High accuracy,Â ~90% classification accuracy
- Supports clinical decision-making and trial enrollment

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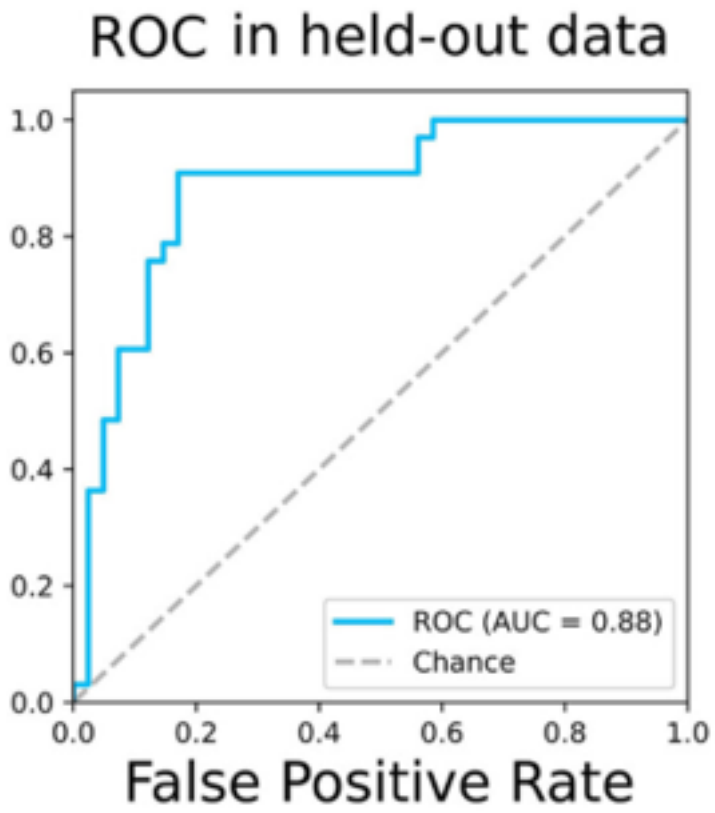

Diagnosis of FTD by a distinctive cell-free miRNA signature

Development Stage

The technology has been validated in a cohort of 168 FTD patients and 125 controls using next-generation sequencing and machine learning, demonstrating high diagnostic accuracy. It is in the preclinical stage with strong potential for clinical translation.

Patent Status

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