Blood-Based Biomarkers for Alzheimer’s Disease

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What is a “Biomarker”? 

- A biomarker is an objectively measured and evaluated indicator of a normal biological processes, pathogenic processes or pharmacologic responses to therapeutic intervention.
Benefits of Blood Based Biomarker

• Blood collection is quick and easy
• Collect large volumes to support many studies
• Repeated sampling is an option (over a few hours, yearly, etc.)
• Does not require specialized equipment
• Opens up the potential for widespread screening of at-risk populations
Fully-Automated Instrument at Stanford
P-Tau181 Blood Test for Alzheimer’s Disease

Blood P-Tau181 distinguishes clinically unimpaired participants from participants with Alzheimer’s disease

Blood P-Tau181 correlates with CSF and PET Alzheimer’s disease biomarkers

Other Blood Tests for Alzheimer’s Disease?

- Amyloid-beta (specific to AD)
- GFAP (brain astrocyte marker)
- Neurofilament light (axon degeneration marker)
- sTREM2 (brain microglia marker)

Combining P-Tau181 with other blood biomarkers may construct more complete pathological picture in Alzheimer’s disease.
Question: When will blood tests for AD be available?

- Blood tests for AD are already being used in clinical trials & specialized memory clinics
- More data are needed for use in primary care, but research is moving **VERY** quickly
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