

# Blood-Based Biomarkers for Alzheimer's Disease

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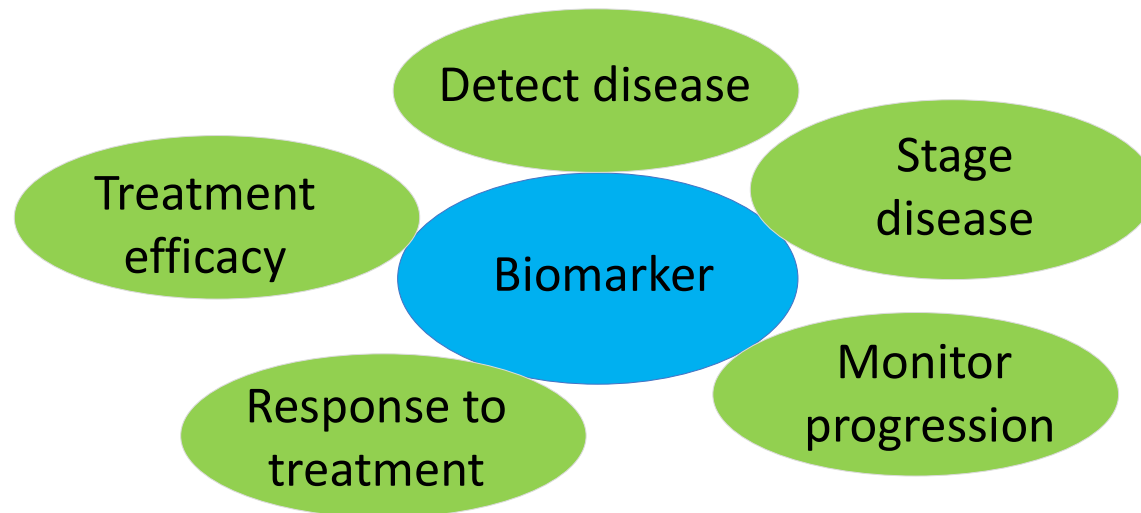
Biomarker Core

Stanford University



# What is a “Biomarker”?

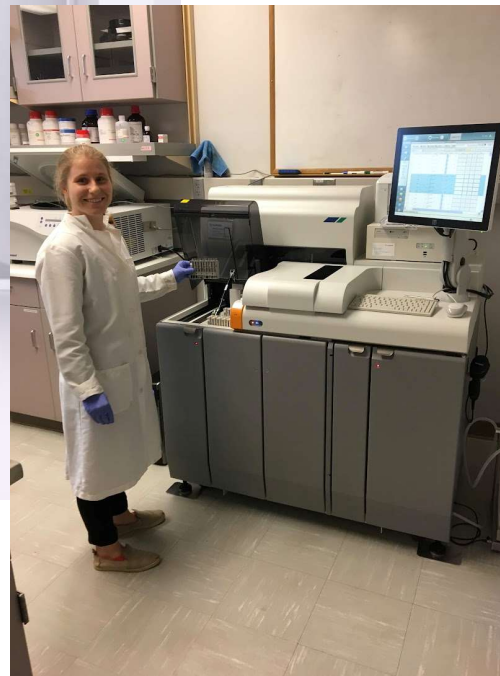
- A biomarker is an objectively measured and evaluated indicator of a normal biological processes, pathogenic processes or pharmacologic responses to therapeutic intervention



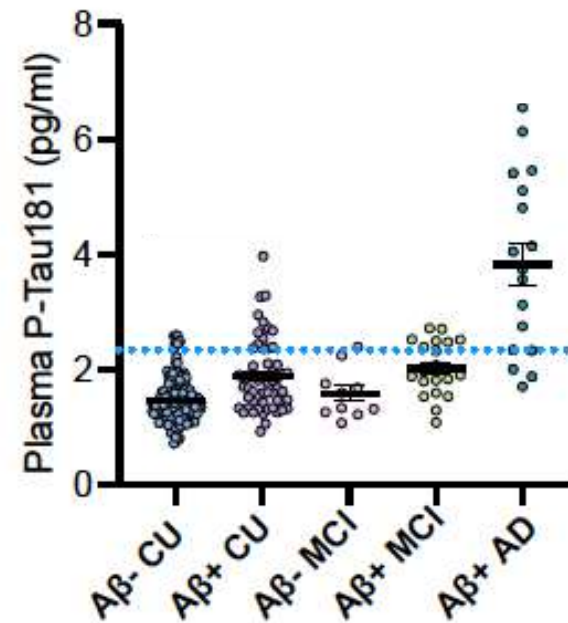
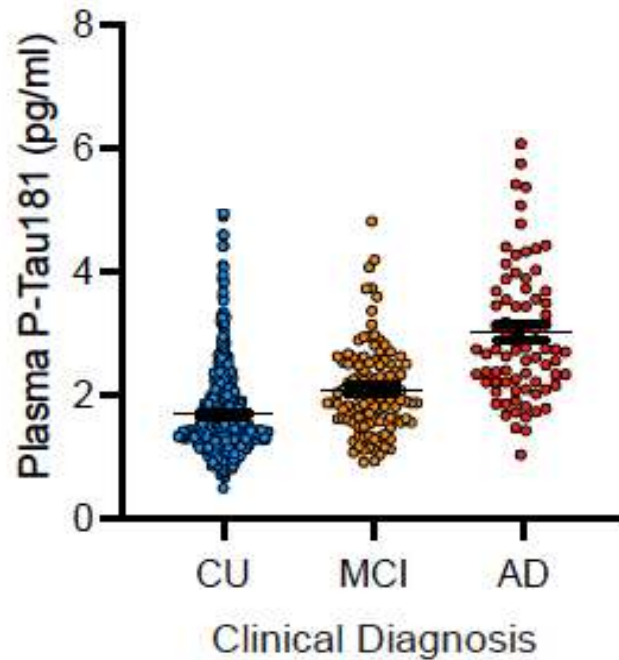
# Benefits of Blood Based Biomarker

- 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 widescale screening of at-risk populations

# Fully-Automated Instrument at Stanford



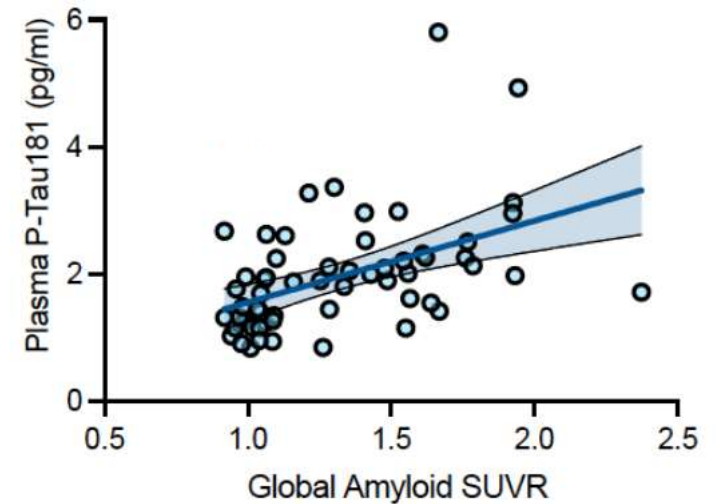
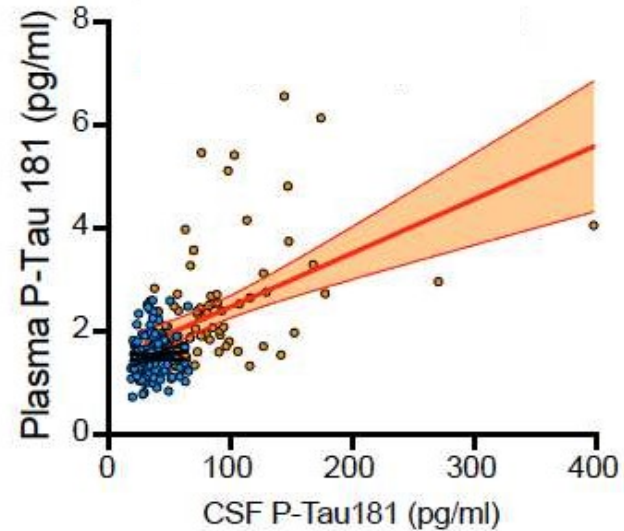
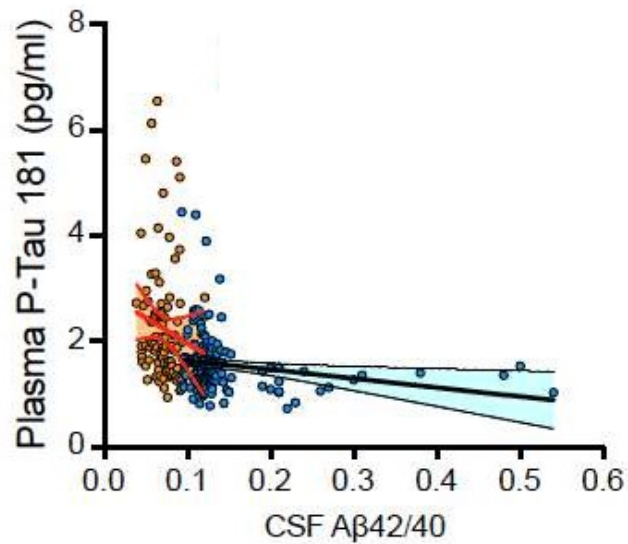
# P-Tau181 Blood Test for Alzheimer's Disease



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

Wilson et al, *Alzheimer's Research & Therapy* (In Press)

# P-Tau181 Blood Test for Alzheimer's Disease



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

Wilson et al, *Alzheimer's Research & Therapy* (In Press)



# 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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