

## "Biomarker der Alzheimer Erkrankung in peripheral Bioflüssigkeiten"

Tear fluid (TF) is an emerging, minimally invasive biofluid for biomarker analysis and is suitable for large-scale and longitudinal studies, as disease states alter protein composition in TF and other body fluids, including in prion and Parkinson's diseases. AD-related markers have been measured in TF using ultrasensitive platforms, suggesting that TF may reflect central nervous system pathology and enable early or preclinical AD detection. Our laboratory has strong biomarker expertise and access to well-characterized AD and control cohorts, providing an optimal setting to establish TF as a biofluid for AD biomarkers such as total tau, p-tau181, p-tau217, p-tau231, and amyloid- $\beta$ . The objective is to validate whether TF biomarkers can distinguish AD from other groups and relate to disease severity or progression, addressing the need for patient-friendly tools for screening and longitudinal monitoring.