

Blood Sample Handling for Alzheimer's Biomarkers:

A Recommended Workflow

The growing use of blood-based biomarkers (BBMs) is revolutionizing the diagnosis and management of Alzheimer's disease (AD). As these tests become more widely available in clinical practice, it is critical to follow a standardized protocol for handling blood samples to obtain reliable results. Inconsistent procedures can lead to inaccurate measurements and potential misinterpretation.

This tool presents the recommended workflow from the Standardization of Alzheimer's Blood Biomarkers (SABB) workgroup, convened by the Alzheimer's Association's Global Biomarker Standardization Consortium (GBSC).

It is designed as a practical, at-a-glance reference for clinical and laboratory staff to ensure proper sample handling and test accuracy. The [full consensus guidance](#) is published in *Alzheimer's & Dementia*[®]: *The Journal of the Alzheimer's Association*.

STEP-BY-STEP WORKFLOW For Health Care Professionals

STEP 1
Blood Collection

STEP 2
Centrifugation

STEP 3
Aliquoting
and Storage

STEP 4
Freeze-Thaw Cycles

Evidence-Based Sample Handling Protocol for Accurate Neurological Blood-Based Biomarker (BBMs) Measurement

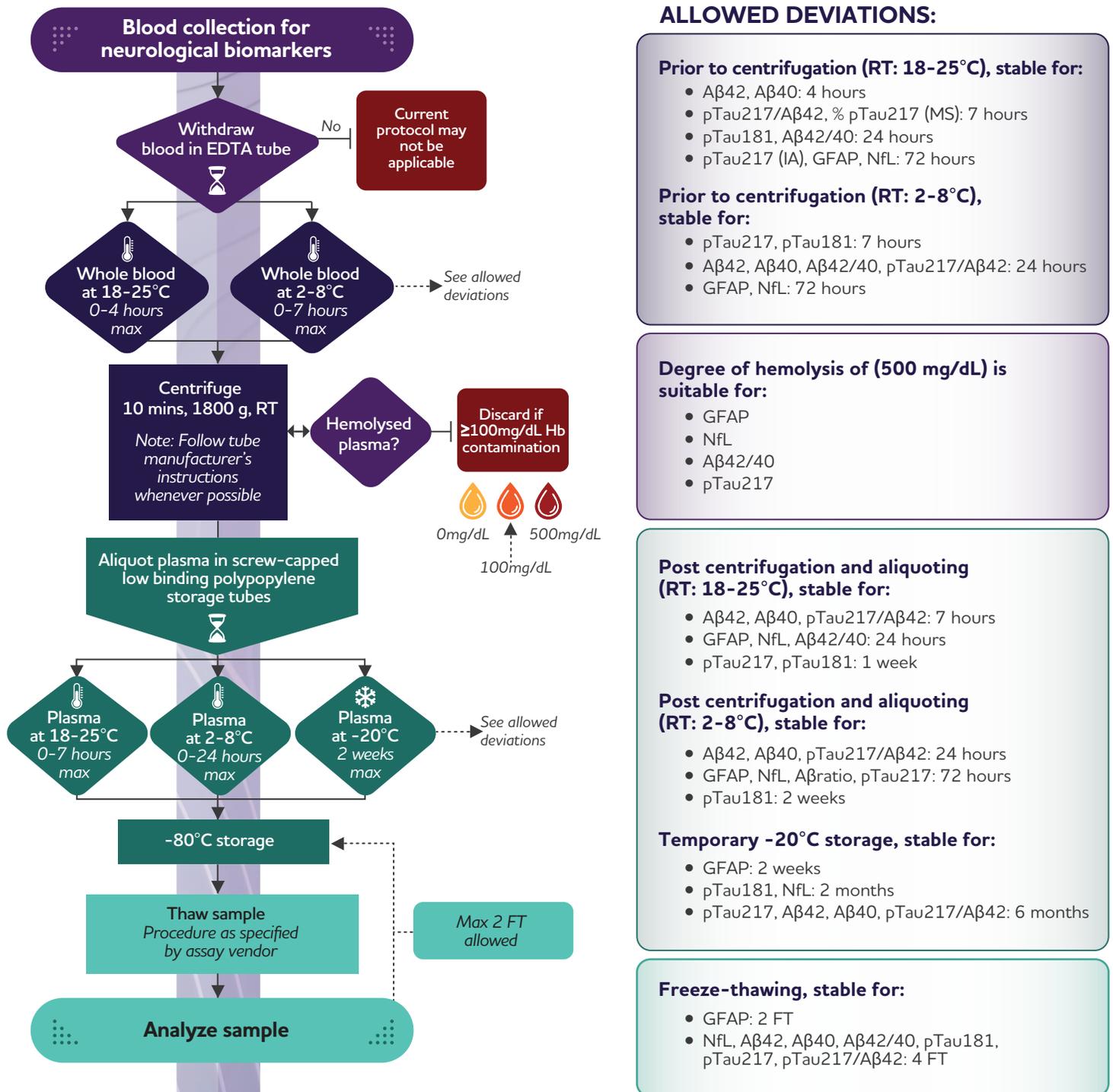


Figure 1:

The flowchart is tailored to mitigate any pre-analytical effect on the most sensitive neurological biomarker. When measuring a specific marker, more flexibility at certain steps might be possible, which can be derived from the "allowed deviations" column. Of note, the advised, optimal sample handling protocol includes a total processing time of less than 2 hours. Hemolysis degree can be measured or visually inspected by comparing it to the commonly used hemolysis palettes. EDTA, ethylene diamine tetraacetic acid; FT, freeze-thaw; Hb, hemoglobin; IA, Immunoassay; max, maximum; MS, Mass Spectrometry; RT, room temperature.



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Reference:

Verberk IMW, Gouda M, Antwi-Berko D, et al. Evidence-based standardized sample handling protocol for accurate blood-based Alzheimer's disease biomarker measurement: results and consensus of the Global Biomarker Standardization Consortium. *Alzheimer's Dement*. 2025;21:e70752. doi:10.1002/alz.70752

About the Alzheimer's Association

The Alzheimer's Association is a worldwide voluntary health organization dedicated to Alzheimer's care, support and research. Our mission is to lead the way to end Alzheimer's and all other dementia — by accelerating global research, driving risk reduction and early detection and maximizing quality care and support. Our vision is a world without Alzheimer's and all other dementia®. Visit alz.org or call 800.272.3900.