



Guidelines toward a unified protocol for handling of CSF and plasma for neurodegenerative protein biomarkers

CSF collection & treatment



- Lumbar puncture (LP) at level L3/L4 or L4/L5
- **Discard the first 2ml of CSF**



- **Collect at least 2x 1ml-1,5ml CSF directly into 1,5ml polypropylene (PP) Low Bind (LoB) tubes*.**

Note: If no PP LoB tubes are available, please be aware to still use PP tubes with an according volume to the sampling. Sparsely filled tubes, use of double volume sized+ tubes, or decanting into secondary tubes leads to aberrations.

- Centrifugation and transfer into new PP LoB tubes of CSF after LP is not necessary if erythrocyte count is $<1000/\mu\text{l}$ or no visible blood contamination.



- Freeze PP tubes instantly if fresh CSF is not sent & received within 7 days at 4°C or within 48h at 22°C maximum.

EDTA plasma collection & treatment (optional)



- EDTA plasma, mirrored to the CSF sampling, needs to be prepared in the clinical lab within 2h after blood draw.



- **Decant at least 2x 1ml-1,5ml Plasma directly into 1,5ml LoB PP tubes*.**

Note: If no PP LoB tubes are available, please use PP tubes with an according volume to the sampling. Sparsely filled tubes, use of double volume sized+ tubes, or decanting into secondary tubes leads to aberrations.

- Freeze PP tubes instantly at -80°C and always send on dry ice. This can be done batchwise if no immediate clinical timeframe. If not sent together with CSF, please add sampling date.



Note: To accelerate scientific research into the diagnosis of these neurodegenerative disorders we would like to ask a blood sample (plasma sample) in addition to your CSF sample. This appended plasma sample will be stored in the IBB Biobank like CSF samples.

Direct shipment or storage for batch shipment



- Include 2 forms: our Biomarker request sheet which includes an informed consent and a request for relevant clinical data; your lab subcontracting form.
- **Ship fresh CSF within 7 days (max 4°C) or 48h (max 22°C); Frozen CSF must be kept in frozen condition while shipping.**



- **Ship plasma always frozen, preferably at -80°C**



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Polypropylene LoB tube references validated for direct testing

Low protein Binding screw cap tubes

***Order nr 72.703.600 - 1,5ml micro tube**

SARSTEDT AG & Co. KG

(Order nr 62.610.018 (10ml) for 5-8 ml volumes - use only in upright position)

References:

The Alzheimer's Association international guidelines for handling of cerebrospinal fluid for routine clinical measurements of amyloid β and tau, Hansson et al, Alzheimer's Dement., 2021.
Guidelines for the standardization of preanalytic variables for blood-based biomarker studies in Alzheimer's disease research, O'Bryant et al, Alzheimers Dement., 2016.
Toward a unified protocol for handling of CSF before β -amyloid measurements, Janelidze et al., Alzheimer's research & Therapy, 2019.