

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

### CSF Protein Markers

|                                 | CSF (standard)                                                            | CSF (ddCJD exception)                                                                   |
|---------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>During/After Collection:</b> | Polypropylene tubes (low bind)*;<br>centrifuge 10 min at 2000 g           | Polypropylene tubes (low bind)*;<br>centrifuge 10 min at 2000 g                         |
| <b>Storage:</b>                 | < 48 h: 2–10 °C<br>< 7 days: –20 °C<br>> 7 days: –80 °C                   | < 48 h: Room temp<br>< 7 days: 4 °C<br>> 7 days: –20 °C                                 |
| <b>Shipping:</b>                | < 48 h: 2–10 °C<br>> 48 h: –20 °C to –80 °C<br>Avoid >1 freeze/thaw cycle | < 48 h: Room temp<br>< 7 days: 2–8 °C<br>> 7 days: –20 °C<br>Avoid >1 freeze/thaw cycle |

If AD biomarkers required → strictly follow ATN profiling conditions

### EDTA Plasma Protein Markers

|                                 |                                                                                                                                 |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>During/After Collection:</b> | Centrifuge whole blood:<br>• Room temp ≤ 2 h, or<br>• Cooled (2–10 °C) ≤ 8 h<br>Transfer plasma to polypropylene low bind tubes |
| <b>Storage:</b>                 | < 48 h: 2–10 °C<br>< 7 days: –20 °C<br>> 7 days: –80 °C                                                                         |
| <b>Shipping:</b>                | < 48 h: 2–10 °C<br>> 48 h: –20 °C to –80 °C<br>Avoid >1 freeze/thaw cycle                                                       |

#### Include 2 forms:

- our Biomarker Request Form which includes an informed consent and a request for relevant clinical data (required for NRC)
- your Lab Subcontracting Form

| NRC-ddCJD coordination / sample receipt / validation & communication of ddCJD results:                                      | Analysis / interpretation:                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
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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  $\beta$  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, Alzheimer's Dement., 2016.

Toward a unified protocol for handling of CSF before  $\beta$ -amyloid measurements, Janelidze et al., Alzheimer's research & Therapy, 2019.