

# Standard Operating Procedures Clinical Protocol Ie: Cerebrospinal Fluid Sample Collection - PLATELET FREE CSF

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**\*\* NOTE:** The following procedure is to be performed wearing laboratory coat, gloves, eye protection, and mask.

## PRINCIPLE

Cerebrospinal fluid (CSF) will be collected from patients at the indicated time points following randomization.

The collection of CSF should be obtained from an existing line, under sterile conditions, and should be performed by someone experienced in the technique and familiar with infectious precautions.

The use of pneumatic tube system for transfer of the collected CSF to the laboratory is not recommended since it can activate white blood cells and promote unwanted release of mediators.

Processing of the CSF should be done as soon as possible after collection in order to prevent the unwanted released of mediators caused by dying cells.

### Specimen Collection & Handling

1. Label all Stabilyte evacuated tubes (Biopool tubes), a 15mL conical tube and 6 cryogenic freezing tubes per patient/ sample collection.
2. A minimum of 4mL of CSF is collected, drop by drop, directly into the Stabilyte tube. Gently inverted several times to mix the CSF with the contained anticoagulant.
3. In laboratory, invert the Stabilyte tube once to mix. Centrifuge at 3000 x g (calculate the speed in rpm taking into account the size of your rotor) for 15 minutes at 4 C with brake off, in a horizontal, swinging bucket centrifuge.
4. Carefully collect the CSF using a disposable plastic transfer pipette from the Stabilyte tube and transfer into a new labeled 15mL conical tube being sure not to withdraw any of the red and white blood cells interfacial layers.

5. Discard the pellet.

6. Aliquot CSF into 2mL cryogenic freezing tubes by placing 250 $\mu$ L of plasma per tube. Store at  $\leq -70^{\circ}\text{C}$  until processing.

Special Note 1.1: only collect the CSF fraction to within 0.2mL of the interface layer. Note that after centrifugation you should have approximately 2mL of supernatant per tube so transfer only approximately 1.75mL of CSF.

Special Note 1.2: Processing and handling of CSF for analysis – please remember endotoxin is ubiquitous and can change expression of all mediators being assayed. Endotoxin free precautions should be taken for handling of all procedures (sterile precautions and using endotoxin free solutions should suffice)

## Supplies

- Stabilyte evacuated tubes (Biopool, cat nb 102080) – will accommodate 4.0mL.
- 15mL sterile polypropylene conical tubes (Falcon/Becton-Dickinson, #35-2097)
- 2ml cryogenic freezing tubes (VWR, #89092-262) Internal thread
- Sterile, endotoxin-free 10mL serological pipets (VWR, #53283- 740)
- Disposable Transfer Pipets, Sterile, Samco\* Scientific (VWR, #14670-003)
- P1000 pre-sterilized, pipet tips (VWR, # 53508-830)
- Insulated Styrofoam box (VWR, #15713-5~9)
- ice bucket

## Equipment

- Clinical Centrifuge with swinging-bucket rotor.
- Sterile tissue-culture hood, BSL-2 or equivalent
- Laboratory pipetter capable of delivering 1.0mL of liquid (eg., Rainin P-I 000)
- Ultra low temperature  $-70^{\circ}\text{C}$  freezer
- Access to a sterilizing autoclave

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