



TECHNICAL NOTICE

SOUTH BEND MEDICAL FOUNDATION

March 2009

Platelet Function Inhibition – Aspirin

Effective Date: March 1, 2009

Performing Department: Hematology

Method: Turbidimetric Based Optical Detection

Use: Evaluate effectiveness of platelet inhibition during aspirin therapy

Clinical Significance:

Aspirin affects platelet function by irreversibly inhibiting the cyclooxygenase-1 (COX-1) enzyme involved in the conversion of arachidonic acid to thromboxane A₂, which ultimately activates the GPIIb/IIIa receptors involved in platelet aggregation. If aspirin has produced the expected anti-platelet effect, such aggregation will not occur.

Reference Range:

- Equal to or greater than 550 ARU = No platelet inhibition consistent with aspirin therapy detected
- Less than 550 ARU = Platelet inhibition consistent with aspirin therapy has been detected

Note: Results are reported in Aspirin Reaction Units (ARU)

Specimen Requirements and Collection:

Preferred Specimen: • Whole blood in special light blue top citrate tube
(2.0 mL Greiner brand “reduced volume” tube containing 3.2% sodium citrate)

Note: order SBMF #11460 to receive the special collection tubes

Collection:

- Collect blood samples using a 21 gauge or larger needle
- First, collect 1.0 to 2.0 mL of blood into a “discard” tube
Note: tube collected before test sample must never contain a platelet inhibiting substance (e.g., EDTA)
- Next, fill a Greiner brand 2.0 mL citrate tube to volume indicated by black line on tube label
(vacuum draw is 2.0 mL which is approximately half of tube capacity)
- Gently invert tube at least 5 times to ensure complete mixing of blood and anticoagulant
- Samples obtained from an indwelling catheter should be collected after sufficient discard, about 5.0 mL, has been drawn off to clear the line; ensure catheter is free of clots
- Samples obtained using a syringe must be immediately transferred to appropriate collection tube

Processing: • Do not centrifuge • Do not remove plasma from cells • Do not refrigerate or freeze

Stability: • 4 hours room temperature (20-30°C)

Storage/Transport: • Room temperature

Causes For Rejection:

- Sample in tube other than a Greiner brand 2.0 mL light blue top “reduced volume” tube (3.2% sodium citrate)
- Sample centrifuged, refrigerated, frozen or contains clots
- Sample received more than 4 hours after collection

Testing Schedule: • Performed daily upon receipt • Results available within 4 hours

Order: • Platelet Function Inhibition – Aspirin Test #: **25114**CPT: • 85576

Please direct questions or comments regarding this notice to Robert J. Tomec, M.D., Deborah H. Sun, Ph.D., or Brett Colter of South Bend Medical Foundation, (574) 234-4176 or (800) 544-0925.

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