



# TECHNICAL NOTICE

## SOUTH BEND MEDICAL FOUNDATION

March 2009

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### Platelet Function Inhibition – P2Y12

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**Effective Date:** March 1, 2009

**Performing Department:** Hematology

**Method:** Turbidimetric Based Optical Detection.

**Use:** Measure of effectiveness of platelet inhibition by P2Y12 receptor blockade drugs

**Clinical Significance:**

The assay is designed to measure platelet P2Y12 receptor blockade. Substances known to specifically block the P2Y12 receptor include the thienopyridine class of drugs, including clopidogrel (Plavix®).

Three results will be reported for each assay:

1. P2Y12 Reaction Units (PRU) report the amount of P2Y12 receptor mediated aggregation .
2. Baseline Result: The baseline aggregation result is reported from the TRAP-activated channel which is insensitive to the presence of a P2Y12 inhibitor.
3. Inhibition (%) is the percent change from baseline aggregation, and is calculated from the PRU result and the BASE result.

$$\% \text{ Inhibition} = \frac{(\text{BASE}-\text{PRU})}{\text{BASE}} \times 100$$

**Reference Range:**

- Pre-treatment / Baseline: 194-418 PRU (PRU = P2Y12 Reaction Units)
- Therapeutic Treatment: Results greater than 193 PRU may indicate inadequate platelet inhibition. P2Y12 platelet inhibition is expected to be greater than 50%

**Specimen Requirements and Collection:**

Preferred Specimen: • 2.0 mL whole blood in special light blue top citrate tube  
(2.0 mL light blue top 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 for P2Y12 .....Test #: 25053 .....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.

**SOUTH BEND MEDICAL FOUNDATION**

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