



FROM YOUR LABORATORY SERVICES PROVIDER

AspirinWorks®

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Quick Facts

- ▶ **Decreased aspirin responsiveness is associated with an increased risk of cardiovascular events**
- ▶ **AspirinWorks® is among the best-studied and clinically validated aspirin sensitivity assays**
- ▶ **Simple urine based test**
- ▶ **AspirinWorks® testing can be sent to our central lab**

For more information, please contact Client Services or see us on the Web at



PAML is pleased to announce AspirinWorks® testing for 11-Dehydro Thromboxane B2 (11dh TxB2) as a marker of platelet activity. As understanding of the importance of platelet contributions to arterial thrombotic disease becomes clearer, the ability to try to test for platelet activity and the responsiveness of platelets to therapy has become more important. Evaluation of platelet responses to therapy has resulted in the concept of “aspirin resistance.” Unfortunately, this commonly used term has multiple meanings both *in vitro* and in clinical *in vivo* use. There is no uniform definition of aspirin resistance in the laboratory or in clinical practice, and there is scant data to support clinical decision-making based on a finding of “aspirin resistance.” This has resulted in significant confusion about what tests are available to evaluate platelet response to therapy and how these tests translate into useful clinical information. Despite this confusion, a recent meta-analysis has suggested that whatever laboratory method and whatever clinical definition one uses, there is a significantly greater risk of recurrent cardiovascular events in aspirin resistant patients compared to aspirin sensitive patients. Because no one test has been shown to be optimal for testing for aspirin resistance, PAML is pleased with the addition of the AspirinWorks® test to the PAML menu. This test complements the two existing platelet biology tests offered, a platelet function screen performed on whole blood with the PFA-100

instrument and whole blood platelet aggregometry.

Each test offers advantages and disadvantages, and may be more useful in different clinical settings. AspirinWorks®, 11 dh Tx B2 testing requires a urine sample that is relatively stable over time and may be the most useful test for patients without easy access to the laboratory where other tests are being performed. Results may take several days to return, but this test is among the best studied in the clinical setting with an increased risk of cardiovascular events associated with aspirin resistance (high 11 dh Tx B2 levels).

Platelet aggregometry is the “gold standard” for platelet function, and has been demonstrated to identify an increased cardiovascular risk in patients with aspirin resistance. The test is labor intensive however, and requires freshly drawn blood and needs to be scheduled with the hematology laboratory. Patients need to have blood drawn at the laboratory site. Results are not immediately available.

The PFA 100 is among the most studied instruments for aspirin resistance, but the studies unfortunately have involved little clinical correlation. Blood can be rapidly transported to the lab and the test does not require advance notification. Results are available rapidly.

Test	Specimen	Results
Aspirin Works®	Urine (stable)	4-7 days
Aggregometry	Whole Blood	Must be scheduled, results in 1-2 days
PFA 100	Whole Blood (4 hrs stability)	1-4 hrs

Test Information

DESCRIPTION **Asiprin Works**

METHOD ELISA

ORDER CODE ASAWK

CPT CODE 83520

SPECIMEN REQUIREMENTS 4 mL frozen random urine collection transferred to BD Urine C&S Preservative Vacutainer tube within 4 hrs of collection. Shake tube vigorously to ensure complete dissolution of the preservative. Store and transport frozen.

COMMENTS 1) Min Amt: 3 mL
2) Unacceptable conditions: unpreserved urines greater thn 4 hrs at room temperature or refrigerated, preserved urines greater than 24 hours refrigerated.
3) Stability: RT-unpreserved 4 hours, Refrigerated-preserved 24 hours, Frozen-preserved 3 months.
4) SHMC-Hematology Department.

Test Schedule: Mon, Thurs
TAT: 3 - 5 days

RANGES 1500 or less - Normalized levels of pg/mg 11-Dehydro Thromboxane B2 indicate an asiprin effect.
GT 1500 Normalized levels of 11 - Dehydro Thromboxane B2 indicate a lack of an asiprin effect.

References:

Krasopoulos, G., S. J. Brister, et al. (2008). "Aspirin "resistance" and risk of cardiovascular morbidity: systematic review and meta-analysis." *BMJ* 336(7637): 195-8.

Snoep, J. D., M. M. Hovens, et al. (2007). "Association of laboratory-defined aspirin resistance with a higher risk of recurrent cardiovascular events: a systematic review and meta-analysis." *Arch Intern Med* 167(15): 1593-9.

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For more information, please contact your local representative.