



PGX – TPMT StripAssay®

The easy way to optimize thiopurine therapy using established innovations in diagnostics

PGX-TPMT Assay.
Key to efficient therapy.

Thiopurines are widely used in the treatment of leukemias and autoimmune disorders, such as Crohn's disease and rheumatoid arthritis. Their use as immunosuppressants after organ transplantation is equally well established. Thiopurine-based drugs are metabolized by the enzyme thiopurine S-methyltransferase (TPMT). Impaired TPMT enzyme activity results in an accumulation of thiopurines and toxic effects on the bone marrow (myelosuppression).

6-Mercaptopurine and its pro-drug azathioprine are immunosuppressants acting via inhibition of DNA synthesis. Thiopurine compounds are converted to therapeutically inactive metabolites by the enzyme TPMT, which exists in different isoforms. TPMT alleles *2 and *3 encode variants with substantially reduced enzyme activity. Patients with low TPMT activity (poor metabolizers) accumulate higher concentrations of thiopurines when receiving standard dosage, and are therefore at elevated risk for side effects such as myelosuppression.

The PGX-TPMT StripAssay® offers an easy way to identify the most frequent polymorphisms in the TPMT gene with therapeutic relevance.

Gene	Relevant Cellular Function	Status	Therapy	Therapeutic Success
TPMT	Metabolism of thiopurine drugs	wildtype	Standard	+++
		variant	Lower dose of thiopurine or alternative treatment	+++

The Assay

The ViennaLab PGX-TPMT StripAssay® meets customer requirements

Requirement	ViennaLab's offer
Easy	Three simple steps. 6 h. Done.
Reliable	Probes for variants and controls combined on one teststrip.
Versatile	Automated or manual processing.
Affordable	Incubator. Thermocycler. Shaker. That is all you need. Software for interpretation of results is optional.

The ViennaLab PGX-TPMT StripAssay® combines all these requirements.

The ViennaLab PGX-TPMT StripAssay®

- is based on reverse-hybridization of biotinylated PCR products
- combines probes for variants and controls in a parallel array of allele-specific oligonucleotides
- works with immobilized oligos on a teststrip
- generates test results by enzymatic color reaction easily visible to the naked eye

Genetic variants detected

TPMT alleles *1, *2, *3A, *3B and *3C.

The three steps of the ViennaLab PGX-TPMT StripAssay®

Step	Requirement
1. Amplification: Multiplex PCR-amplification. Simultaneous biotin-labeling	Thermocycler
2. Hybridization: Directly on the StripAssay® teststrips	Incubator
3. Identification: Labeled products detected by streptavidin-alkaline phosphatase	Naked eye or scanner & software

ViennaLab offers StripAssays® for a wide range of diagnostic applications. These include Cancer, Cardiovascular Disease, Familial Mediterranean Fever, Gaucher Disease, Haemochromatosis, Pharmacogenetics, Sugar Intolerance, and Thalassemia. See the full and most recent range of our products at our website.

Order Information:

PGX-TPMT StripAssay®: 4-740 (20 tests/kit)

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