

Therapeutic Drug Monitoring (TDM)

Chromatography kits for GC, GC/MS,
HPLC and LC-MS/MS methods



a **SENTINEL** DIAGNOSTICS
Company

Therapeutic Drug Monitoring (TDM)

More informations available at
www.eurekakit.com



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Pharmacological treatments and their side effects can have an impact on the patients' safety or quality of life. Specifically, the so called ADME (absorption, distribution, metabolism, and excretion) of the drug can be highly influenced by genetics, environment and administration of other drugs due to co-morbidities. Therefore, in some cases the treatment with a fixed drug dose can be hazardous to patients' health.

For this reason, the management of a drug therapy which is optimized for a specific case is necessary. In some cases, this can be needed for drugs that present a narrow therapeutic range, which can be easily exceeded causing toxic effects and/or increasing drug-drug interactions (DDIs) (Tuzimski, et al. 2020_review).

Alternatively, if the drug concentration is lower than the safety range, the pharmacological activity might not occur. In the light of this, Therapeutic Drug Monitoring (TDM) is a strategic way to "adjust" the treatment and the dose based on patient's clinical case (Kuhlin, et al. Clinms_2018). In clinical practice, several matrices can be used for TDM: whole blood, serum, plasma, dried blood spots, oral fluid (Tuzimski, et al. 2020_review).

LC-MS/MS

Serum

- Benzodiazepines

Plasma

- Antibiotics
- Antiepileptics
- Antimycotics
- Antituberculosis Drugs
- Ponatinib
- Tamoxifen, Endoxifen

Serum/Plasma

- Antiarrhythmics
- Antidepressants
- Antiepileptics
- Antipsychotics
- Irinotecan and 7-Ethyl-10-Hydroxycamptothecin (SN38)

Whole blood

- Immunosuppressants

Whole blood/Plasma

- Immunosuppressants DUAL KIT (+ Mycophenolic acid)

Ex vivo determination in PBMC

- 5-Fluorouracil

HPLC

Serum

- Metformin

Plasma

- Antiarrhythmics
- Antibiotics
- Antimycotics
- Levetiracetam
- Perampanel
- Sotalol
- Topiramate
- Valproic Acid

Serum/Plasma

- Amiodarone/Desethylamiodarone
- Antiepileptics
- Benzodiazepines
- Clozapine and Norclozapine
- Lamotrigine
- Lamotrigine and 10, 11-Dihydro-10-Hydroxycarbazepine
- Mycophenolic Acid
- Tricyclic Antidepressants

All kits have the following benefits:

- Ready to use and CE/IVD marked
- Simple, non-critical and rapid preparative phase
- Maximum specificity
- Recovery of analytes ranges from 90% to 100%

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