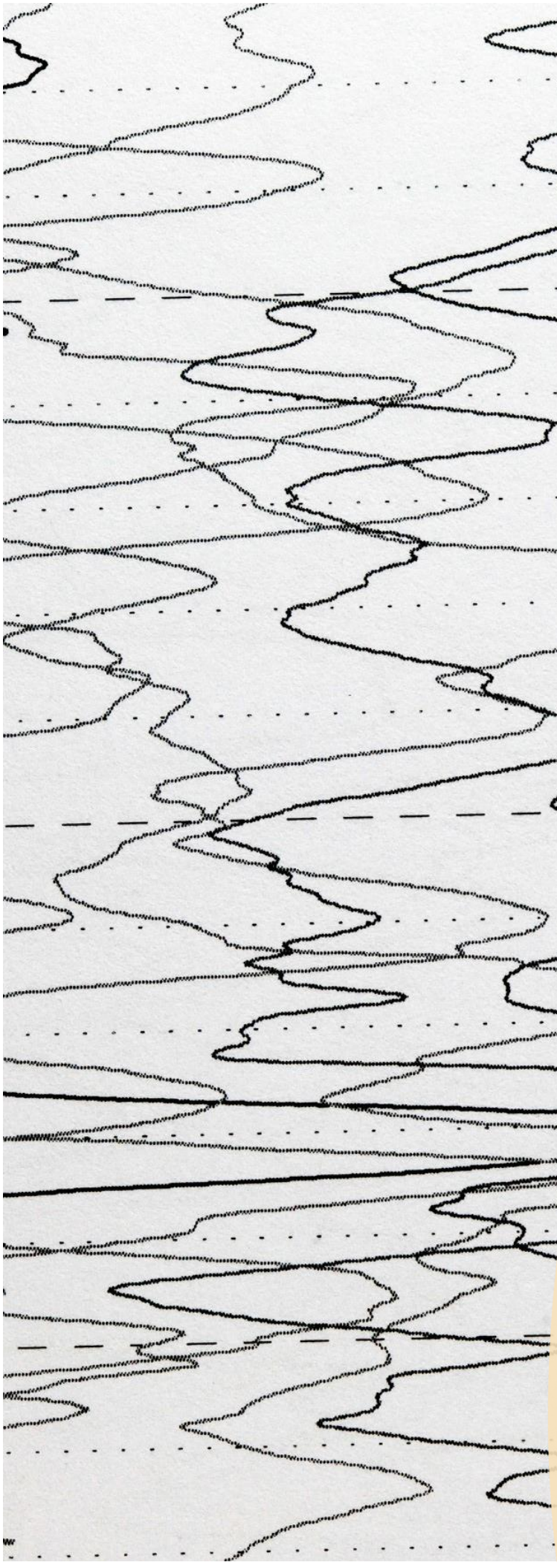

# FG Neuro Epilepsy

## Pharmacogenetics of Epilepsies

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## Why undergoing this examination?

Epilepsy is a chronic disease characterized by recurrent seizures, which can cause neurobiological, cognitive, and psychological consequences in patients.

Over 90% of epileptic patients are treated with anticonvulsant medications, which must be followed for many years. The specific antiepileptic drug should be individualized based on the epilepsy syndrome, seizure type, patient age, presence of other pathologies, interaction with other medications, and the patient's specific characteristics.

Approximately 60% of treated patients significantly reduce the frequency of seizures, and over 20% achieve some improvement. However, tolerance to antiepileptic drugs is often not well accepted due to side effects resulting from the high dose required to control seizures. Lack of tolerance and effectiveness of epilepsy pharmacological treatment may be due to genetic causes (85%), as human genome variation is one of the most important factors responsible for modulating the individual response to medications.

## What is the exam?

The FG Neuro Epilepsy pharmacogenetic panel evaluates variants in genes responsible for the main metabolizing enzymes, transporters, and targets involved in the activity of antiepileptic drugs. The analysis provides relevant information on the 11 most used drugs, based on the study of genetic variants present in the cytochrome P450 enzymes: ***CYP2C9, CYP2C19, CYP3A4****;* in the **HLA-A** and ***HLA-B*** complexes; and in the genes: ***POLG, CPS1, OTC, DRD2/ANKK1***, and ***UGT2B15***.

## For whom is it indicated?

- Patients undergoing treatment with antiepileptic drugs who want to personalize treatment based on their genetic profile;
- Patients for whom treatment with antiepileptic drugs does not yield expected results.

## Technology

*Next-generation sequencing (NGS).*

## Advantages

### SYNLAB GROUP

Guaranteed by the experience of the absolute European leader in laboratory diagnostics.

### COMPLETE

Detailed report including, in addition to the type of metabolism of each enzyme, which drugs may cause toxic effects and adverse reactions, as well as recommendations regarding doses.

## Extra Information

**DOCUMENTATION** - Available on the SYNLAB Direct for clients

- Informed Consent;
- Clinical Questionnaire;
- Medical Request.

### PREPARATION

- Fasting is not necessary for the exam.

**Delivery Time**
22 business days

**Sample Type**
5 mL of whole blood in EDTA

## Additional Information

| Studied Drugs | | |
|---|---|---|
| Valproic Acid* | Phenytoin* | Lorazepam |
| Carbamazepine* | Phenobarbital* | Oxcarbazepine |
| Clobazam* | Lamotrigine* | Zonisamide |
| Diazepam* | Levetiracetam | |

**Drugs for which the FDA (Food and Drug Administration - USA) and/or EMEA (European Medicine Agency) have approved the inclusion of pharmacogenomic information in their labels.*