

Antiepileptic drugs (AED) are the mainstay of epilepsy treatment. The medication enables the patient to live free of epileptic seizures. Depending on the type of epilepsy, several AEDs with diverse activity mechanisms may be used for the management of the disease. For the monitoring of the drug level, this ClinRep® Complete Kit allows for the simultaneous determination of 13* AEDs and metabolites.

* Carbamazepine, carbamazepine-epoxide, N-desmethylmeth-suximide, eslicarbazepine, ethosuximide, 10-hydroxycarbama-zepine, lamotrigine, oxcarbazepine, phenylethylmalonamide (PEMA), phenobarbital, phenytoin, primidone, sulthiame

Antiepileptic Drugs

Antiepileptics in Serum

Test Data

Linearity: Lamotrig., Sulthiame: 0.5 - 50 µg/ml
Other Antiepileptics: 0.3 - 300 µg/ml

Recovery: 95 - 105 %

LOD: Lamotrig., Sulthiame: 0.2 µg/ml
Other Antiepileptics: 0.1 µg/ml

LLOQ: Lamotrig., Sulthiame: 0.5 µg/ml
Other Antiepileptics: 0.3 µg/ml

Intraassay precision: 2.3 %

Interassay precision: 2.8 %

HPLC Parameters

Pump: isocratic pump,
flow rate: 1.0 ml/min

Injection volume: 10 µl

Injection interval: 15 min

UV/VIS-Detector: Lamotrig., Sulthiame: 265 nm
Other Antiepileptics: 205 nm

HPLC-Thermostat: 55 °C

Sample Preparation

Extraction:

100 µl sample	150 µl Precipitant P (contains Internal Standard IS)
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↓ centrifuge

Dilution:

100 µl supernatant	100 µl Diluting Solution D
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HPLC Analysis:

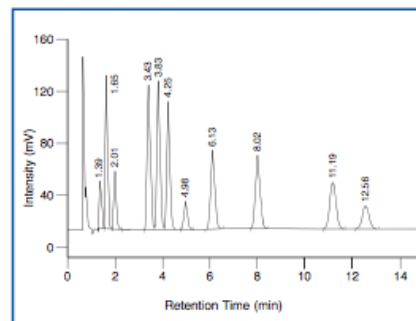
Inject 10 µl of the diluted supernatant

→ Simultaneous analysis of 13 antiepileptic drugs

→ Efficient sample clean-up

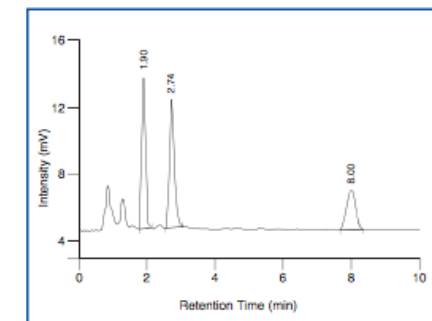
→ Robust and fast chromatography (injection interval: 15 min)

ClinChek® Serum Control, Level II, recorded at 205 nm:



PEMA: 1.39 min, Ethosuximide: 1.65 min, Primidone: 2.01 min, 10-Hydroxy-carbamazepine: 3.43 min, Phenobarbital: 3.83 min, N-Desmethylmethsuximide: 4.25 min, Carbamazepine-epoxide: 4.98 min, Oxcarbazepine: 6.13 min, IS: 8.02 min, Phenytoin: 11.19 min, Carbamazepine: 12.56 min

ClinChek® Plasma Control, Level II, recorded at 265 nm:



Sulthiame: 1.90 min, Lamotrigine: 2.74 min, IS: 8.00 min

Ordering Information

Order No.	Description	Quantity
15000	ClinRep® Complete Kit for Antiepileptics in Serum for 100 assays	1 pce.
Kit Components (order no. 15000):		
15010	Mobile Phase	1000 ml
15011	Standard Solution Antiepileptics	3 ml
15012	Precipitant P with Internal Standard	15 ml
15013	Serum Calibrator Antiepileptics, lyophil.	3 ml
15020	Sample Preparation Vials with Reagent, lyophil.	2 x 15020 (2 x 50 pcs.)
15021	Diluting Solution D	10 ml
	Manual	1 pce.
	Quick Reference	1 pce.
Optional Components:		
15111	Standard Solution for Lamotrigine and Sulthiame	3 ml
15113	Plasma Calibrator for Lamotrigine and Sulthiame, lyophil.	3 ml
Start Accessories:		
15030	Analytical Column with test chromatogram	1 pce.
15032	Guard Column Holder incl. 1 Guard Column	1 pce.
Accessories:		
15033	Guard Column	5 pcs.
FK5810	PEEK tubing (connection of prefilter and column)	1 pce.
FK5820	Stainless steel prefilter holder	1 pce.
FK5821	Replacement filter for stainless steel prefilter holder	10 pcs.
ClinChek® Controls:		
15080	Serum Control Antiepileptics, lyophil., Level I	10 x 3 ml
15081	Serum Control Antiepileptics, lyophil., Level II	10 x 3 ml
15082	Serum Control Antiepileptics, lyophil., Level I, II	2 x 5 x 3 ml
15180	Plasma Control for Lamotrigine and Sulthiame, lyophil., Level I	10 x 3 ml
15181	Plasma Control for Lamotrigine and Sulthiame, lyophil., Level II	10 x 3 ml
15182	Plasma Control for Lamotrigine and Sulthiame, lyophil., Level I, II	2 x 5 x 3 ml