

Theophylline, theobromine and caffeine are termed as methylxanthines and are used in the management of asthma bronchiale. Methylxanthines produce a relaxation of the bronchial smooth muscle and thus are helping to open up constricted airways (bronchodilators). The drug absorption and metabolism may be affected by many factors, including co-medication with other drugs (e.g. several AEDs, see pages 80 - 89). A monitoring of the plasma level is therefore essential to ensure that therapeutic, but not toxic drug doses are applied. The RECIPE ClinRep® Complete Kit features simple and quick sample preparation, a cost-efficient analysis and ensures reliable results.

Antiasthmatics

Antiasthmatics in Plasma

Test Data

Linearity:	1.3 - 50 mg/l
Recovery:	approx. 70 %
LOD:	Theophylline: 0.8 mg/l Theobromine: 0.6 mg/l Caffeine: 0.6 mg/l
LLOQ:	Theophylline: 1.7 mg/l Theobromine: 1.3 mg/l Caffeine: 1.4 mg/l

Intraassay precision: 2.5 %
Interassay precision: 1.7 %

HPLC Parameters

Pump:	isocratic pump, flow rate: 1.5 ml/min
Injection volume:	20 µl
Injection interval:	8 min
UV/VIS-Detector:	273 nm
HPLC-Thermostat:	37 °C

Sample Preparation

Extraction:	100 µl plasma	150 µl Precipitant P (contains Internal Standard IS)
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↓ centrifuge

Dilution:	50 µl supernatant	250 µl Diluting Solution D
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HPLC Analysis:

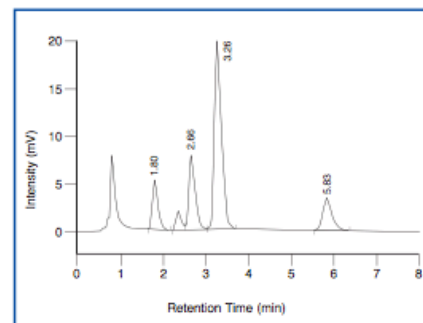
Inject 20 µl of the diluted supernatant

→ Simultaneous determination of 3 methylxanthines

→ Simple and quick sample preparation

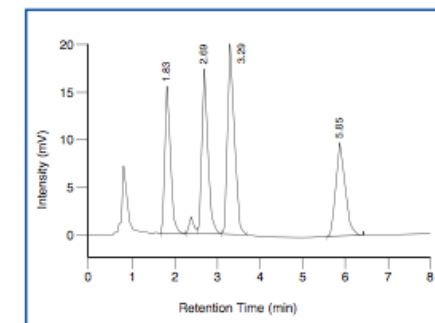
→ Low cost per test

ClinChek® Plasma Control, Level I



Theobromine: 1.80 min, Theophylline: 2.66 min,
IS: 3.26 min, Caffeine: 5.83 min

ClinChek® Plasma Control, Level II



Theobromine: 1.83 min, Theophylline: 2.69 min,
IS: 3.29 min, Caffeine: 5.85 min

Ordering Information

Order No.	Description	Quantity
12000	ClinRep® Complete Kit for Antiasthmatics in Plasma for 100 assays	1 pce.
Kit Components (order no. 12000):		
12010	Mobile Phase	1000 ml
12011	Standard Solution	4 ml
12012	Precipitant P with Internal Standard	15 ml
12013	Plasma Calibrator, lyophil.	3 ml
12020	Sample Preparation Vials with Reagent, lyophil.	2 x 12020 (2 x 50 pcs.)
12021	Diluting Solution D	25 ml
	Manual	1 pce.
	Quick Reference	1 pce.
Start Accessories:		
12030	Analytical Column with test chromatogram	1 pce.
FK7000	manu-CART® cartridgeholder, one time accessory	1 set
Accessories:		
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:		
12080	Plasma Control, lyophil., Level I	10 x 3 ml
12081	Plasma Control, lyophil., Level II	10 x 3 ml
12082	Plasma Control, lyophil., Level I, II	2 x 5 x 3 ml