

Plasma free metanephrines (PFM) are the most specific parameters for the diagnosis of extraadrenal chromaffin tumors. The measurement of PFM (metanephrine (M), normetanephrine (NM) and 3-methoxytyramine (MT)) is challenging because of their polar nature, their low molecular weight and their low physiological concentration in human plasma. Most LC-MS/MS methods used in clinical routine analysis involve time- and labour-consuming manual sample preparation for solid phase extraction (SPE). In contrast to this, the RECIPE ClinMass® Complete Kit represents the first commercially available CE-IVD method and provides a simple sample pretreatment with one-step protein precipitation and subsequent on-line SPE.

Biogenic Amines

Free Metanephrines in Plasma – on-line Analysis

Test Data

Linearity (up to):	5200 ng/l (M), 10000 ng/l (NM, MT)
Recovery:	83 - 116 %
LOD:	1.94 ng/l (M), 3.67 ng/l (NM), 0.94 ng/l (MT)
LLOQ:	5.82 ng/l (M), 11.0 ng/l (NM), 2.83 ng/l (MT)
Intraassay precision:	3.1 % (M), 4.5 % (NM), 3.4 % (MT)
Interassay precision:	3.2 % (M), 4.7 % (NM), 4.1 % (MT)

LC-MS/MS Parameters

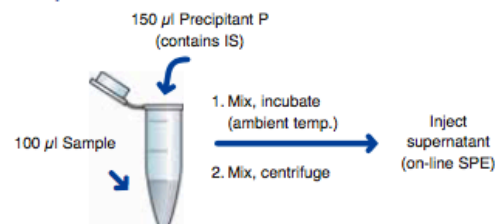
LC-Parameters

Pump 1:	SPE-Buffer (0.1 - 1.0 ml/min)
Pump 2:	Mobile Phase A / B (0.6 ml/min)
Injection volume:	50 µl
Injection interval:	6.0 min
Switching valve:	automatic switching valve, 6-port/3-channel
Column heater:	25 °C

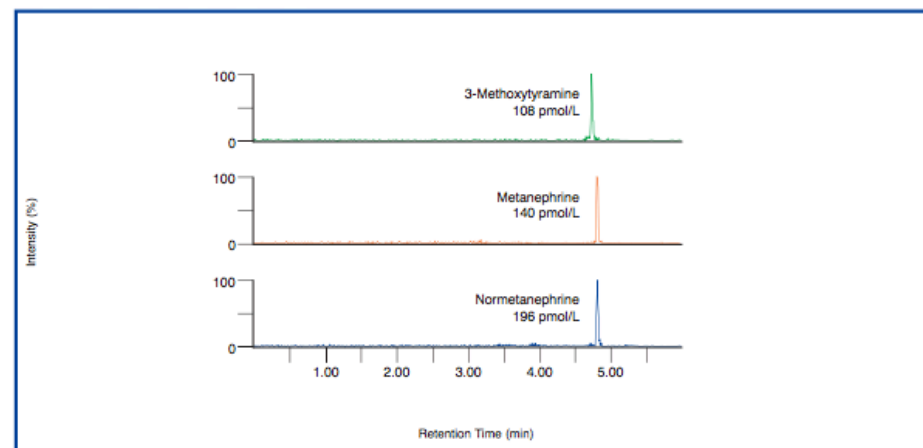
MS-Parameters

Ion-Source:	ESI, positive
MS/MS-Mode:	MRM

Sample Pretreatment



Chromatogram of the ClinCal® Serum Calibrator, level 2 (order no. MS11013)



Ordering Information

Order No.	Description	Quantity
MS11000	ClinMass® Complete Kit for Free Metanephrines in Plasma – on-line Analysis for 200 assays	1 pce.
Contents (order no. MS11000):		
MS11005	Autosampler Washing Solution	1000 ml
MS11007	Mobile Phase A	250 ml
MS11008	Mobile Phase B	2 x MS11008 (2 x 1000 ml)
MS11009	SPE-Buffer Load L	2 x MS11009 (2 x 1000 ml)
MS11010	SPE-Buffer Wash W	1000 ml
MS11012	Precipitant P with Internal Standard	30 ml
MS11013	Serum Calibrator Set, lyophil. (Level 0 - 4)	5 x 1 x 3 ml
MS11020	Sample Pretreatment Vials Manual	2 x MS11020 (2 x 100 pcs.) 1 pce.
Additional Components:		
MS11014	Optimisation Mix	2 ml
Start Accessories:		
MS11030	Analytical Column with test chromatogram	1 pce.
MS11031	SPE-Column	1 pce.
ClinChek® Controls:		
MS11080	Serum Control, lyophil., Level I	10 x 3 ml
MS11081	Serum Control, lyophil., Level II	10 x 3 ml
MS11082	Serum Control, lyophil., Level III	10 x 3 ml
MS11083	Serum Control, lyophil., Level I, II, III	3 x 3 x 3 ml

→ First commercially available CE-IVD kit

→ Highly sensitive and selective LC-MS/MS method

→ 5-level calibrator set, controls in 3 levels

→ Isotope-labelled internal standard compounds