

MassChrom® Free Metanephrines in Plasma with 96 SPE Well Plates

Reagent kit for LC-MS/MS Analysis

- > 6PLUS1® Multilevel Calibrator Set and **MassCheck®** controls based on human plasma
- > Simple sample prep in just a few steps
- > Chromatographic separation of analytes – no co-elution
- > Isotopically labelled internal standards for all analytes

SPECIFICATIONS

Limit of quantification
 Metanephrine: 15 ng/l
 Normetanephrine: 7 ng/l
 3-Methoxytyramine: 11 ng/l

Linearity
 Metanephrine: up to 5650 ng/l
 Normetanephrine: up to 8500 ng/l
 3-Methoxytyramine: up to 5800 ng/l

Recovery: 89-100 %
 Intraassay: CV = 2.7-6.9 %
 Interassay: CV = 3.3-8.6 %
 Analysis time: 5 min

PRE-ANALYTIC TREATMENT

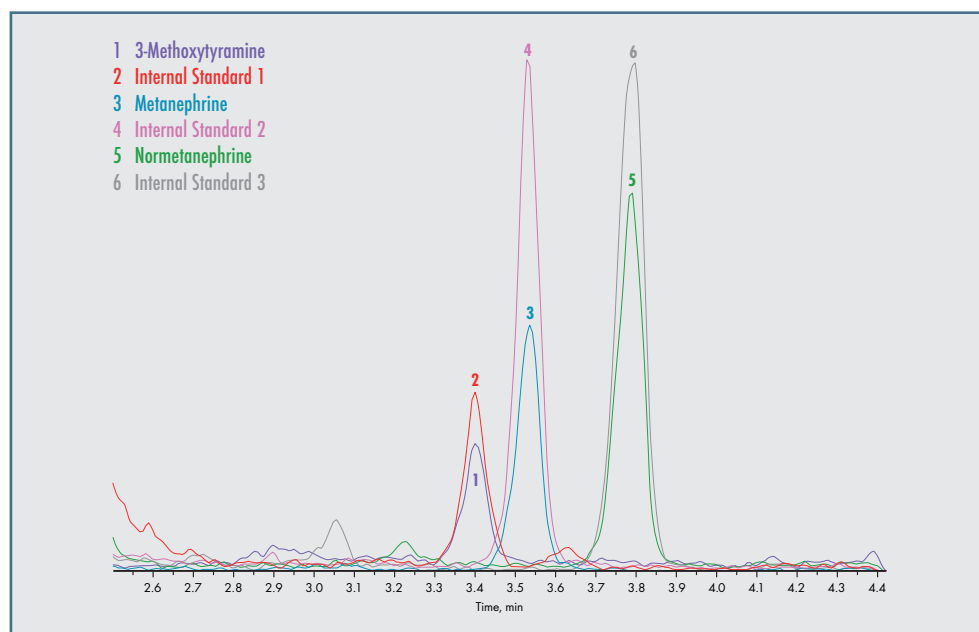
Specimens: plasma

SAMPLE PREPARATION

- > Pipette 500 µl Dilution Buffer and 25 µl Internal Standard Mix into each well of the 96 SPE Well Plate.
- > Add 500 µl of the sample/calibrator/**MassCheck®** control, centrifuge, discard effluent.
- > Add 0.9 ml Wash Buffer 1, centrifuge, discard effluent.
- > Add 2 x 0.9 ml Wash Buffer 2, centrifuge, discard effluent.
- > Add 250 µl Elution Buffer into each well and centrifuge.
- > Inject up to 25 µl.

LC-MS/MS PARAMETERS

Injection volume: ≤ 25 µl
 Ionisation: ESI positive
 MS/MS-Mode: MRM
 Gradient: binary
 Column temperature: ambient (~ 25 °C)



Pheochromocytomas and other neural crest tumours (e.g. paragangliomas and neuroblastomas) secrete metanephrine, normetanephrine and 3-methoxytyramine. These plasma free metanephrines are more stable and secreted more evenly than catecholamines (epinephrine, norepinephrine, and dopamine). Some studies show that the analysis of plasma free metanephrines has the highest sensitivity and specificity in pheochromocytoma diagnostics compared to plasma free catecholamines and metanephrines in urine.

This kit allows the quantitative determination of metanephrine, normetanephrine and 3-methoxytyramine in plasma by LC-MS/MS. It encompasses all required components and allows a simple and fast sample preparation: solid phase extraction (SPE) without equilibration/conditioning steps, analyte enrichment without evaporation step, only one elution step. The analytes are chromatographically separated to avoid co-elution and to minimise risks of interferences. The use of stable isotope-labelled internal standards for every single analyte ensures reproducible and reliable quantification. The 6PLUS1® Multilevel Plasma Calibrator Set and **MassCheck®** controls ensure high precision of results. They are obtained from human plasma to minimize matrix-induced differences.

Alternatively, there is also a method available using Sample Clean Up Columns (81000/C).

ORDERING INFORMATION

Order no.	Product
81000	MassChrom® Free Metanephrines in Plasma with 96 SPE Well Plates For 2 x 96 determinations
Components available separately:	
81001	Mobile Phase A, 750 ml
81002	Mobile Phase B, 450 ml
81003	Dilution Buffer, 50 ml
81004	Internal Standard Mix, 2 x 2.5 ml
81005	Wash Buffer 1, 90 ml
81006	Wash Buffer 2, 90 ml
81007	Elution Buffer, 25 ml
81009	Rinsing Solution, 500 ml
81057	96 SPE Well Plate, 1 pc.
81058	Collection Plates, 3 pcs.
81059	Pierceable adhesive seals for 96 Well Plates, 3 pcs.
Startup Accessories:	
81100	Analytical column, equilibrated, with test chromatogram, 1 pc.
81015	Tuning Mix (Analytes and Internal Standards), 1 ml
81010	System Check Solution, 1 ml
81056	Waste Plates, 3 pcs.
15070	Stainless steel prefilter housing, 1 pc.
15071	Stainless steel prefilter, 0.5 µm, 5 pcs.
Chromsystems Multilevel Calibrators and MassCheck® Controls for Free Metanephrines in Plasma (lyoph.):	
81039	6PLUS1® Multilevel Plasma Calibrator Set Free Metanephrines, 7 x 3 ml
0384	MassCheck® Free Metanephrines Plasma Control, Level I, 5 x 3 ml
0385	MassCheck® Free Metanephrines Plasma Control, Level II, 5 x 3 ml
0386	MassCheck® Free Metanephrines Plasma Control, Level III, 5 x 3 ml