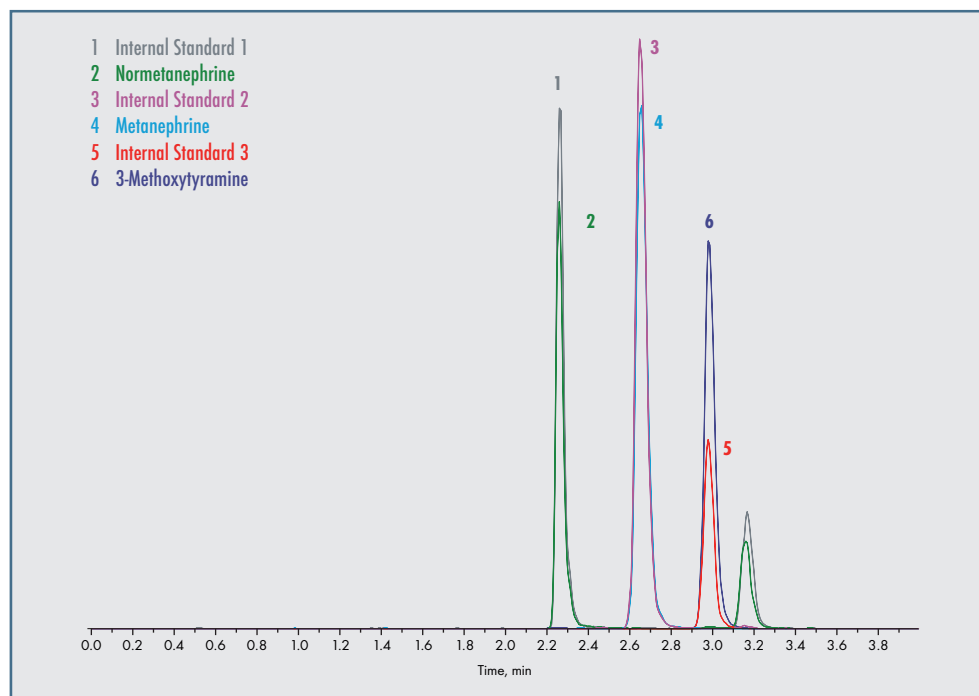


# MassChrom® Total Metanephrines (free + conjugated) in Urine with 96 SPE Well Plate Sample Prep Set for LC-MS/MS Analysis

- > Identical Chromatographic Platform for all Sample Prep Sets
- > Isotopically labelled internal standards
- > 6PLUS1® Multilevel Calibrator Set & MassCheck® controls
- > Fully automated workflow available



This Sample Prep Set allows the quantitative determination of total metanephrine, normetanephrine and 3-methoxytyramine in patient urine samples by LC-MS/MS. The conjugated metanephrines are released by hydrolysis and are determined as sum together with the free forms. One typical application of this kit is the analysis of patient samples with a suspicion of catecholamine-secreting tumours.

The Sample Prep Set encompasses all components required for an efficient and fast sample preparation. After hydrolysis of the conjugated metanephrines, the sample is purified by solid phase extraction (SPE) with 96 SPE Well Plate, and the concentration of the total metanephrines is determined. The 6PLUS1® Multilevel Calibrator Set and MassCheck® controls ensure high precision of results. A fully automated workflow solution is also available.

Alternatively, there is also a method available using Sample Clean Up Columns (80700/C).

## SPECIFICATIONS

Limit of quantification: 4.0–5.5 µg/l  
 Linearity:  
 Metanephrine, Normetanephrine up to 20 mg/l  
 3-Methoxytyramine up to 10 mg/l  
 Recovery: 92–107 %  
 Intraassay: CV = 2.5–5.6 %  
 Interassay: CV = 3.2–4.9 %  
 Analysis time: 4.0 min

## PRE-ANALYTIC TREATMENT

Specimens: 24 h urine collected in a suitable container with 10 ml of 10–25 % HCl. Spontaneous urine can be also analysed (see instruction manual).  
 Stability: protected from light, patient specimens are stable for up to 7 days at +2 to +8 °C. For longer storage periods keep samples frozen below -18 °C.

## SAMPLE PREPARATION

- > Pipette 200 µl sample/calibrator/MassCheck® control into each well of the Hydrolysis Plate.
- > Add 50 µl Internal Standard Mix + 25 µl Hydrolysis Buffer.
- > Seal Hydrolysis Plate with pierceable adhesive seal and cover.
- > Hydrolyse in the oven for 45 min at 120 °C.
- > Cool for at least 10 min at +2 to +8 °C.
- > Place a 96 SPE Well Plate onto a Collection Plate.
- > Pipette 50 µl hydrolysate into each well of the 96 SPE Well Plate.
- > Add 600 µl Neutralisation Buffer.
- > Centrifuge 5 min at 150 x g, discard effluent.
- > Add 0.9 ml Wash Buffer 1, centrifuge 5 min at 150 x g, discard effluent.
- > Add 2 x 0.9 ml Wash Buffer 2, centrifuge each time 1 min at 150 x g, discard effluent.
- > Centrifuge 1 min at 2000 x g to dryness, discard effluent.
- > Place 96 SPE Well Plate onto a new Collection Plate.
- > Pipette 500 µl Elution Buffer into each well and centrifuge 2 min at 100 x g.
- > Pipette 500 µl Dilution Buffer into each well of the Collection Plate.
- > Seal with adhesive seal.
- > Shake for 2 min at 900 rpm, transfer to auto-sampler.
- > Inject up to 20 µl into the LC-MS/MS system.

## LC-MS/MS PARAMETERS

Injection volume: ≤ 20 µl  
 Ionisation: ESI positive  
 MS/MS-Mode: MRM  
 Column temperature: ambient (~ 25 °C)

## ORDERING INFORMATION

These products are not available in all countries

Order no.	Product
80000	<b>MassChrom®</b> Biogenic Amines/Metabolites in Urine: Chromatographic Platform Starter Set
	<b>Components available separately:</b>
80001	Mobile Phase A, 1000 ml
80002	Mobile Phase B, 500 ml
80009	Rinsing Solution, 1000 ml
80100	Analytical column (equilibrated with test chromatogram), 1 pc.
80700/96	<b>MassChrom®</b> Biogenic Amines/Metabolites in Urine: Total Metanephrines (free + conjugated) with 96 SPE Well Plate Sample Prep Set for 96 determinations
	<b>Components available separately:</b>
80703	Hydrolysis Buffer, 2.5 ml
80704	Internal Standard Mix, 5 ml
80605	Neutralisation Buffer, 60 ml
80606	Wash Buffer 1, 90 ml
80607	Wash Buffer 2, 90 ml
80608	Elution Buffer, 50 ml
80609	Dilution Buffer, 50 ml
80056	Collection Plates <b>MassChrom®</b> Biogenic Amines/Metabolites in Urine, 3 pcs.
80057	96 SPE Well Plate <b>MassChrom®</b> Biogenic Amines/Metabolites in Urine, 1 pc.
80058	Hydrolysis Plate <b>MassChrom®</b> Biogenic Amines/Metabolites in Urine, 3 pcs.
80059	Pierceable adhesive seals for 96 Well Plates <b>MassChrom®</b> Biogenic Amines/Metabolites in Urine, 3 pcs.
	<b>Startup Accessories:</b>
80615	Tuning Mix (Analytes and Internal Standards), 1 ml
80610	System Check Solution, 1 ml
15070	Stainless steel prefilter housing, 1 pc.
15071	Stainless steel prefilter, 0.5 µm, 5 pcs.
15015	Cover for 96 Well Plates, 1 pc.
	<b>Chromsystems Multilevel Calibrator and MassCheck® Controls (lyoph.):</b>
80739	6PLUS1® Multilevel Urine Calibrator Set Total Metanephrines, 7 x 2 ml
0376	<b>MassCheck®</b> Total Metanephrines Urine Control Level I, 5 x 2 ml
0377	<b>MassCheck®</b> Total Metanephrines Urine Control Level II, 5 x 2 ml