



CATALOGUE
2023



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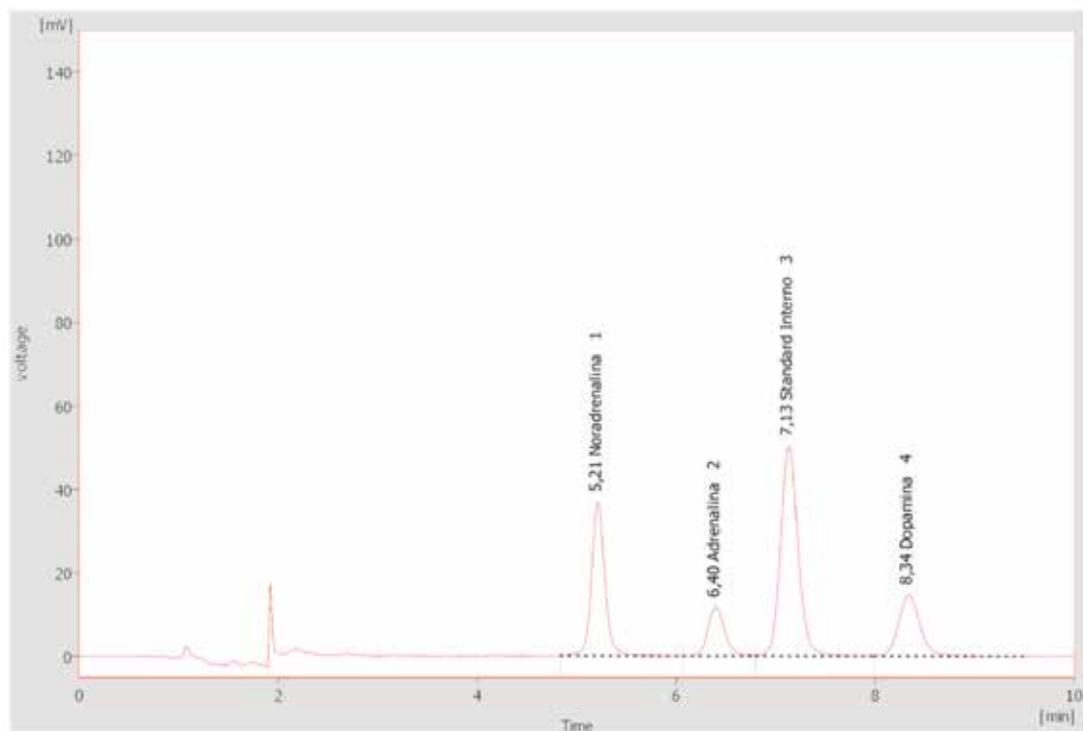
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SHORT METHOD DESCRIPTION

FloChrom® Catecholamines in Urine

The high concentration of Catecholamines in urine is very important to diagnose and monitor patients affected by pheochromocytoma.

Also, patients affected by neuroblastoma or tumors have high levels of these neurotransmitters. They have been occasionally observed in neuroectodermal tumors too.



HPLC system conditions

Injection volume: 30 μl (variable according to instrumental sensitivity)

Flow rate: 1.5 mL/min

Running time: 11 min

Column heater: Room temperature

Fluorescence detector: 285 nm excitation, 315 nm emission

Performance

Analyte	Linearity ($\mu\text{g/mL}$)	LLOD ($\mu\text{g/mL}$)	LLOQ ($\mu\text{g/mL}$)	CV% Intra	CV% Inter
Epinephrine	2 - 2300	1	2	2.1 - 2.5	4.7 - 6.6
Norepinephrine	2 - 4500	1	2	1.1 - 2.3	1.1 - 5.2
Dopamine	2 - 5800	1	2	1.1 - 2.1	3.0 - 4.3

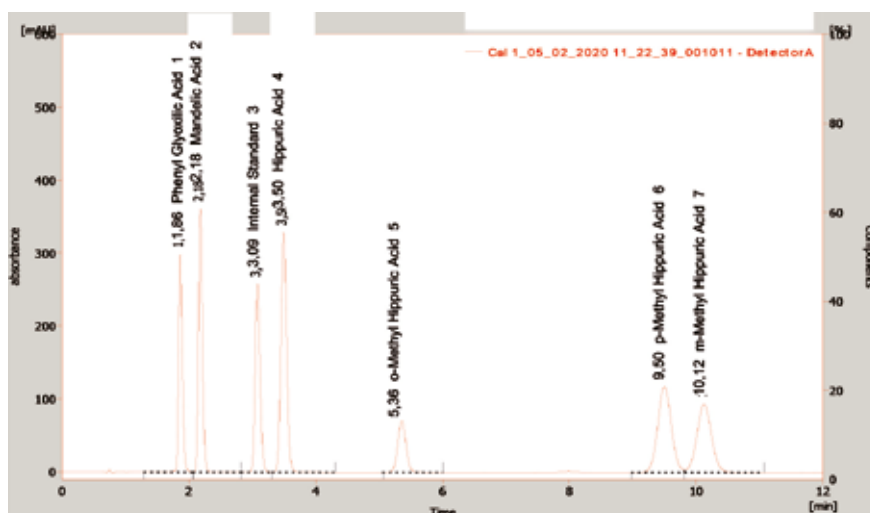
ORDERING GUIDE

Order No.	Description	Quantity
EUH01100	FloChrom® Catecholamines in Urine Fluorimetric detection	100 assays
	Contents	
	Mobile Phase	1 x EUH01011
	Reagent 1	1 x EUH01021
	Reagent 2	1 x EUH01022
	Protective Reductant	1 x EUH01023
	Internal Standard	1 x EUH01031
	Calibrator	1 x EUH01041
	SPE Column	1 x EUH01061
	Separately available components	
EUH01011	Mobile Phase	2000 ml
EUH01021	Reagent 1	200 ml
EUH01022	Reagent 2	60 ml
EUH01023	Protective Reductant	7 g
EUH01031	Internal Standard	10 ml
EUH01041	Calibrator	10x2.5 ml
EUH01061	SPE Column	100 pcs
	Accessory	
EUH01090	Analytical Column with test chromatogram	1 pc
EUH01070	Precolumns	5 pcs
EUH01080	Holder (incl. 1 precolumn)	1 pc
	ClinChek® Controls	
8820	Urine Control, lyoph. (Level I)	10x8 ml
8821	Urine Control, lyoph. (Level II)	10x8 ml
8822	Urine Control, lyoph. (Level I, II)	2x5x8 ml

SHORT METHOD DESCRIPTION

FloChrom[®] Hippuric acid and Styrene metabolites in Urine

The presence of high levels of Hippuric Acid or its metabolites in urine is associated with high exposure to solvents such as benzene, toluene, xylene and styrene, as they are the substances that are produced by the body when these solvents are metabolized to be eliminated. Prolonged exposure to high doses of these solvents can lead to kidney and respiratory damages. In more severe cases, it can also induce leukemia and neoplastic formations. The determination of these compounds therefore finds application in the field of occupational medicine.



HPLC system conditions

Injection volume: 10 μ l (variable according to instrumental sensitivity)

Flow rate: 1.3 mL/min

Running time: 12 min

Column heater: 30°C

UV detector: 205 nm

Performance

Analyte	Linearity (μ g/mL)	LLOD (μ g/mL)	LLOQ (μ g/mL)	CV% Intra	CV% Inter
Phenyl Glyoxylic Acid	5 - 2500	2	5	2.7 - 6.8	4.9 - 7.8
Mandelic Acid	5 - 2500	2	5	2.5 - 6.5	7.6 - 11.7
Hippuric Acid	50 - 5000	30	50	2.6 - 6.3	6.2 - 8.6
o-Methyl Hippuric Acid	5 - 2500	2	5	2.8 - 6.5	4.5 - 5.5
p-Methyl Hippuric Acid	5 - 2500	2	5	3.1 - 5.4	7.6 - 11.6
m-Methyl Hippuric Acid	5 - 2500	2	5	2.8 - 6.5	9.9 - 1.3

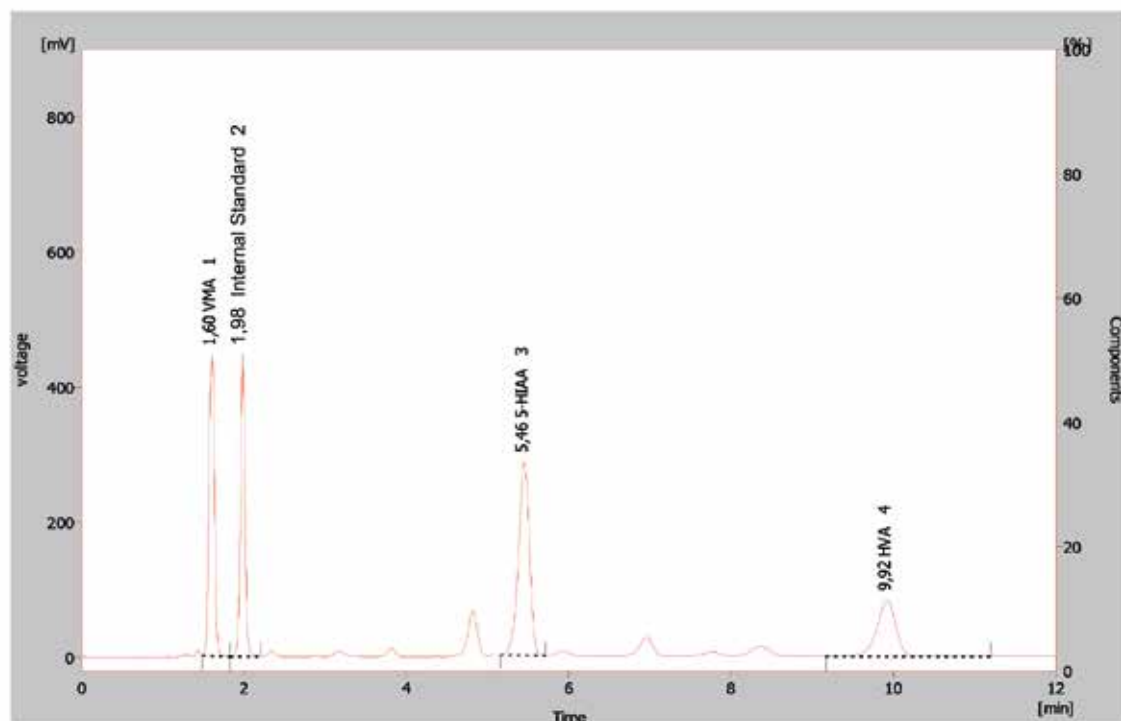
ORDERING GUIDE

Order No.	Description	Quantity
EUH02100	FloChrom® Hippuric Acid and Styrene Metabolites in Urine (Hippuric acid, Mandelic acid, Methylhippuric acid, Pheylglyoxylic acid) UV detection	100 assays
	Contents	
	Mobile Phase	2 x EUH02011
	Internal Standard	1 x EUH02031
	Calibrator lyoph.	1 x EUH02041
	Separately available components	
EUH02011	Mobile Phase	1500 ml
EUH02031	Internal Standard	30 ml
EUH02041	Calibrator lyoph.	0.5 ml
	Accessory	
EUH02090	Analytical Column with test chromatogram	1 pc
EUH02070	Precolumns	5 pcs
EUH02080	Holder (incl. 1 precolumn)	1 pc
EUH02051	Control Set for Hippuric Acid and Styrene Metabolites in Urine lyoph. (2 levels)	5x2x0.5 ml

SHORT METHOD DESCRIPTION

FloChrom[®] VMA, 5-HIAA and HVA in Urine

Concentration of VMA in urine is an important indicator in diagnosis and control of patients affected by pheochromocytoma. 5-HIAA is an important tumor marker of carcinoid syndrome. HVA is important in the study of neuroblastoma and in other neuroendocrine rare diseases.



HPLC system conditions

Injection volume: 20 μ l (variable according to instrumental sensitivity)

Flow rate: 1.5 mL/min

Running time: 14 min

Column heater: 37°C

Fluorescence detector: 285 nm excitation, 315 nm emission

Performance

Analyte	Linearity (mg/L)	LLOD (mg/L)	LLOQ (mg/L)	CV% Intra	CV% Inter
VMA	0.20 - 50	0.06	0.20	0.12 - 1.05	4.64 - 6.47
5-HIAA	0.80 - 100	0.24	0.80	0.27 - 0.68	3.24 - 7.21
HVA	1.05 - 100	0.32	1.05	1.51 - 1.66	7.05 - 7.96

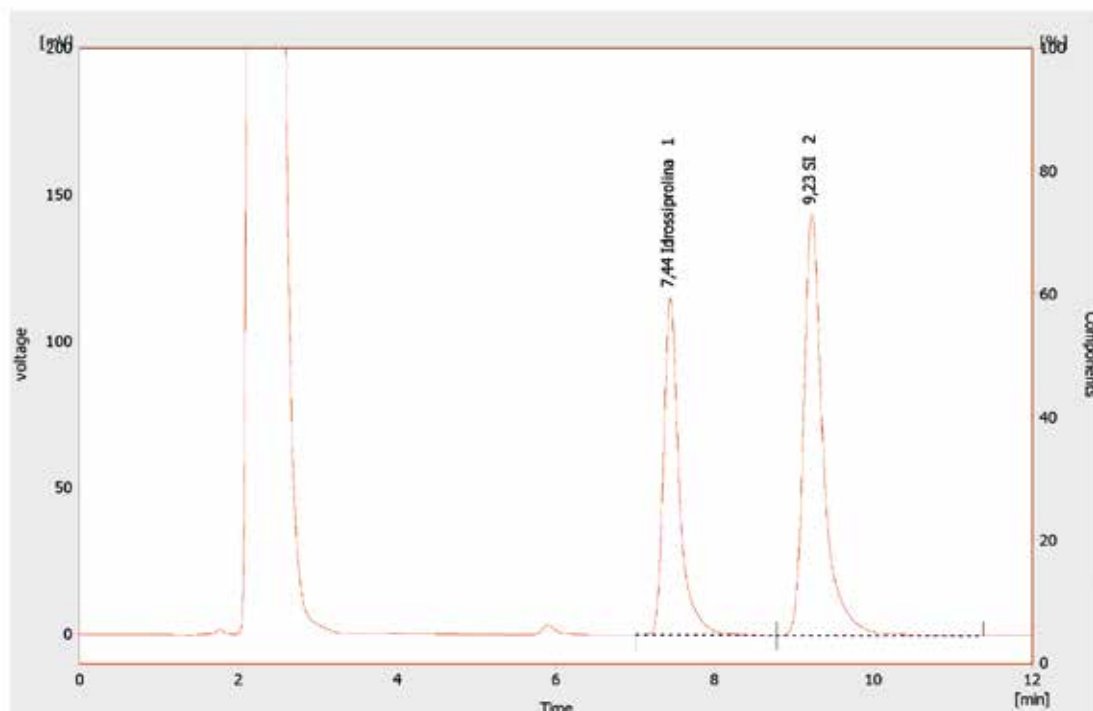
ORDERING GUIDE

Order No.	Description	Quantity
EUH03100	FloChrom® VMA, 5-HIAA, HVA in Urine Fluorimetric detection	100 assays
	Contents	
	Mobile Phase	2 x EUH03011
	Reagent 1	1 x EUH03021
	Reagent 2 - Saturation	1 x EUH03022
	Reagent 3 - Extraction	2 x EUH03023
	Reagent 4 - Buffer	1 x EUH03024
	Reagent 5	1 x EUH03025
	Reconstitution Solvent	1 x EUH03026
	Internal Standard	1 x EUH03031
	Calibrator lyoph.	1 x EUH03041
	Separately available components	
EUH03011	Mobile Phase	1500 ml
EUH03021	Reagent 1	20 ml
EUH03022	Reagent 2 - Saturation	22 g
EUH03023	Reagent 3 - Extraction	200 ml
EUH03024	Reagent 4 - Buffer	50 ml
EUH03025	Reagent 5	50 ml
EUH03026	Reconstitution Solvent	32 ml
EUH03031	Internal Standard	10 ml
EUH03041	Calibrator lyoph.	5x5 ml
	Accessory	
EUH03090	Analytical Column with test chromatogram	1 pc
EUH03070	Precolumns	5 pcs
EUH03080	Holder (incl. 1 precolumn)	1 pc
	ClinChek® Controls	
8820	Urine Control, lyoph. (Level I)	10x8 ml
8821	Urine Control, lyoph. (Level II)	10x8 ml
8822	Urine Control, lyoph. (Level I, II)	2x5x8 ml

SHORT METHOD DESCRIPTION

FloChrom® Hydroxyproline in Urine

4-HydroxyProline is a very abundant amino acid in collagen (about 10%). In normal or pathological cases urinary excretion of hydroxyproline is a reliable indicator of the intensity of collagen of degradation or synthesis and bone remodeling. Urine dosage can be helpful in diagnosis of osteoporosis, bone cancers and other similar pathologies.



HPLC system conditions

Injection volume: 10 μ l (variable according to instrumental sensitivity)

Flow rate: 1.2 mL/min

Running time: 12 min

Column heater: Room temperature

Fluorescence detector: 260 nm excitation, 330 nm emission

Performance

Analyte	Linearity (mg/L)	LLOD (mg/L)	LLOQ (mg/L)	CV% Intra	CV% Inter
Hydroxyproline	2.19 - 183.6	0.66	2.19	2.04 - 6.75	5.2 - 10.9

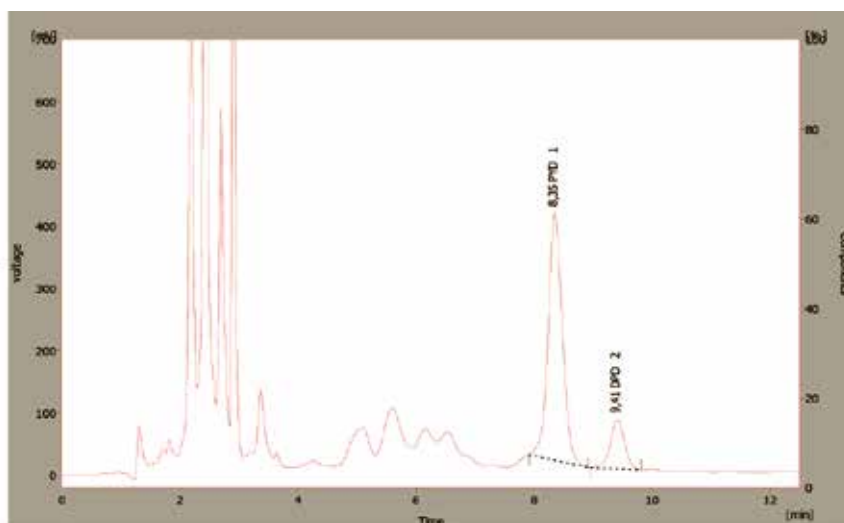
ORDERING GUIDE

Order No.	Description	Quantity
EUH05100	FloChrom® Urinary Hydroxyproline Fluorimetric detection	100 assays
	Contents	
	Mobile Phase	2 x EUH05011
	Reagent A	1 x EUH05021
	Reagent B	1 x EUH05022
	Reagent C + Solvent	3 x EUH05023
	Reagent D	3 x EUH05024
	Reagent E	1 x EUH05025
	Internal Standard	1 x EUH05031
	Hydrolysis Tubes	1 x EUH05060
	Calibrator	1 x EUH05041
	Separately available components	
EUH05011	Mobile Phase	1000 ml
EUH05021	Reagent A	20 ml
EUH05022	Reagent B	10 ml
EUH05023	Reagent C + Solvent	3x100 mg; 1x10 ml
EUH05024	Reagent D	6 ml
EUH05025	Reagent E	10 ml
EUH05031	Internal Standard	10 ml
EUH05060	Hydrolysis Tubes	100 pcs
EUH05041	Calibrator	2 ml
	Accessory	
EUH05090	Analytical Column with test chromatogram	1 pc
EUH05070	Precolumns	5 pcs
EUH05080	Holder (incl. 1 precolumn)	1 pc
	ClinChek® Controls	
8820	Urine Control, lyoph. (Level I)	10x8 ml
8821	Urine Control, lyoph. (Level II)	10x8 ml
8822	Urine Control, lyoph. (Level I, II)	2x5x8 ml

SHORT METHOD DESCRIPTION

FloChrom® Cross Links in Urine

The so called “Pyridium Crosslinks”, PYD and DPD, are formed during the collagen maturation. This process is essential for maintaining the structure of collagen fibrils. When collagen is catabolized as part of normal tissue turnover or due to increased disease-induced degradation of collagen, these compounds are excreted in the urine. The amount of Crosslinks in urine reflects the extent of total collagen degradation and is an important indicator of bone resorption. Bone turnover, and therefore the excretion of Crosslinks, depends on age: up to the age of 25 the excretion decreases, then it remains relatively constant for several years. Subsequently, increased excretion can be observed, especially in postmenopausal women. Patients with bone disease exhibit significantly greater Crosslinks excretion. The measurement of Crosslinks can be used to monitor the response to treatment of patients with osteoporosis or with Paget’s disease and to assess the risk of osteoporosis where a drug treatment would include agents with antiresorptive, antiestrogenic or selective estrogen receptor moderators activity. Other conditions for which they have been suggested as biomarkers are arthritis and some types of cancer.



HPLC system conditions

Injection volume: 100 µl (variable according to instrumental sensitivity)

Flow rate: 0.5 mL/min

Running time: 12 min

Column heater: 30°C

Fluorescence detector: 290 nm excitation, 400 nm emission

Performance

Analita	LOD (pmol/mL)	LOQ (pmol/mL)	Linearity (pmol/mL)	CV% Intra	CV% Inter
PYD	2.38	9.00	9.00 - 1600	2.6 - 10.7	5.9 - 13.1
DPD	0.57	2.25	2.25 - 360	5.3 - 12.6	10.8 - 14.4

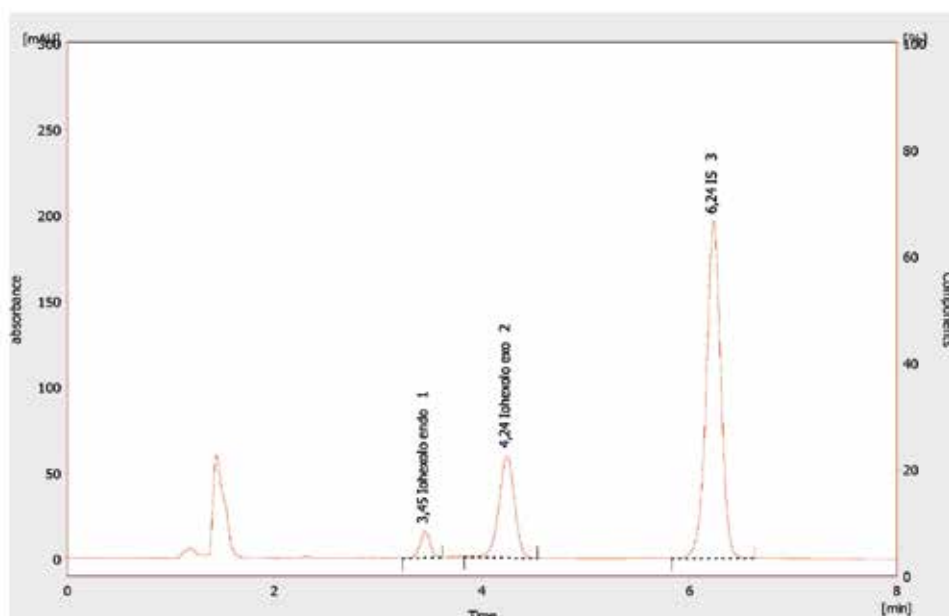
ORDERING GUIDE

Order No.	Description	Quantity
EUH09100	FloChrom® Crosslinks in Urine Fluorimetric detection	100 assays
	Contents	
	Mobile Phase	1 x EUH09011
	Hydrolysis Solution	1 x EUH09021
	Reaction Buffer - Reagent 1	2 x EUH09022
	Reaction Buffer - Reagent 2	2 x EUH09023
	Washing Solution 1 - Reagent 1	2 x EUH09024
	Washing Solution 1 - Reagent 2	2 x EUH09025
	Washing Solution 2	1 x EUH09026
	Eluting Solution	1 x EUH09027
	SPE Column	2 x EUH09061
	Calibrator lyoph.	1 x EUH09041
	Separately available components	
EUH09011	Mobile Phase	3000 ml
EUH09021	Hydrolysis Solution	100 ml
EUH09022	Reaction Buffer - Reagent 1	35 ml
EUH09023	Reaction Buffer - Reagent 2	140 ml
EUH09024	Washing Solution 1 - Reagent 1	170 ml
EUH09025	Washing Solution 1 - Reagent 2	340 ml
EUH09026	Washing Solution 2	100 ml
EUH09027	Eluting Solution	55 ml
EUH09061	SPE Column	50 pcs
EUH09041	Calibrator lyoph.	6x2.2 ml
	Accessory	
EUH09090	Analytical Column with test chromatogram	1 pc
EUH09051	Control Set for Crosslinks in urine, lyoph. (2 levels)	5x2x2.2 ml

SHORT METHOD DESCRIPTION

FloChrom® Iohexol in Serum/Plasma

GFR (Glomerular Filtration Rate) determines the speed of the glomerular filtration of the plasma through renal glomeruli. It quantitatively estimates kidney function. Kidney failure symptoms appear only when the patient has almost totally lost his renal function. The most common used parameters as creatinine, plasmatic urea and urine specific gravity, may not appear altered until the end-stage renal disease has been reached. They are considered not enough sensitive indicators, especially in people who suffering of obesity, anorexia or in organ transplant recipients. Iohexol plasma clearance is a valid and more sensitive alternative to the mostly used creatinine clearance. Iohexol is an exogenous molecule, commercially available, mainly used as contrast medium. Iohexol is eliminated only through renal way. It comes very close to fulfill all requirements for an ideal GFR marker.



HPLC system conditions

Injection volume: 30 μ l (variable according to instrumental sensitivity)

Flow rate: 1.0 mL/min

Running time: 10 min

Column heater: Room temperature

UV detector: 245 nm

Performance

Analyte	Linearity (mg/L)	LLOD (mg/L)	LLOQ (mg/L)	CV% Intra	CV% Inter
Iohexol endo	4.13 - 160	1.24	4.13	2.23 - 3.93	2.24 - 5.62
Iohexol eso	1.07 - 160	0.32	1.07	0.88 - 3.57	1.42 - 4.05

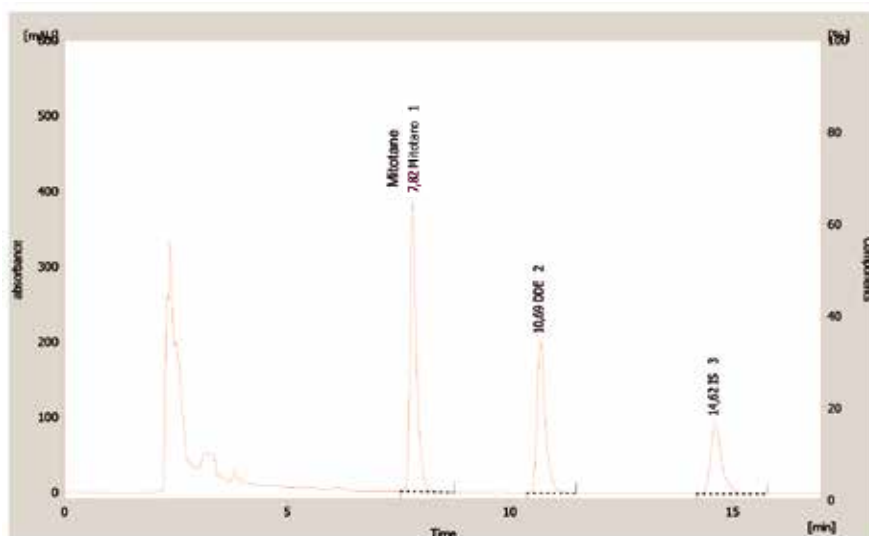
ORDERING GUIDE

Order No.	Description	Quantity
EUH06100	FloChrom® Iohexol in Serum/Plasma UV detection	100 assays
	Contents	
	Mobile Phase	1 x EUH06011
	Internal Standard	1 x EUH06031
	Calibrator lyoph.	1 x EUH06041
	Separately available components	
EUH06011	Mobile Phase	1500 ml
EUH06031	Internal Standard	25 ml
EUH06041	Calibrator lyoph.	1x1 ml
	Accessory	
EUH06090	Analytical Column with test chromatogram	1 pc
EUH06070	Precolumns	5 pcs
EUH06080	Holder (incl. 1 precolumn)	1 pc
EUH06051	Control Set for Iohexol in Serum/Plasma, lyoph. (2 levels)	2x2x1 ml

SHORT METHOD DESCRIPTION

FloChrom[®] Mitotane/DDE in Plasma

Mitotane, an analogue of DDT insecticide, is the drug of choice for unresectable, metastatic or recurrent adrenocortical carcinoma (ACC) and, due to high rates of recurrence, it is also suggested as adjuvant therapy after tumor resection. The antitumor effect of Mitotane is related to the maintenance of adequate plasma levels of the drug. Patients with Mitotane levels in plasma $\geq 14 \mu\text{g/mL}$ have been observed to have a response rate of 55-60%, while those with lower levels have a lower response rate. Significant side effects were generally only observed in patients with plasma levels above $20 \mu\text{g/mL}$. Monitoring of plasma concentration of Mitotane during treatment allows a faster achievement of the therapeutic level ($14\text{-}20 \mu\text{g/mL}$), as well as the minimization of adverse effects due to an excessively high plasma level. Intra-adrenal metabolic transformation is essential for the therapeutic effect of Mitotane, that is metabolized in DDE and DDA: DDA levels rapidly increase in response of high Mitotane levels while DDE levels increase slowly. Long-term follow-up studies suggest that DDE plasma concentration is closely related to improvement and clinical remission.



HPLC system conditions

Injection volume: 50 μL (variable according to instrumental sensitivity)

Flow rate: 1.0 mL/min

Running time: 15 min

Column heater: 35°C

UV detector: 226 nm

Performance

Analyte	Linearity ($\mu\text{g/mL}$)	LLOD ($\mu\text{g/mL}$)	LLOQ ($\mu\text{g/mL}$)	CV% Intra	CV% Inter
Mitotane	0.94 - 100	0.28	0.94	2.60 - 7.50	5.70 - 7.10
DDE	0.99 - 100	0.30	0.99	2.10 - 6.90	3.90 - 6.60

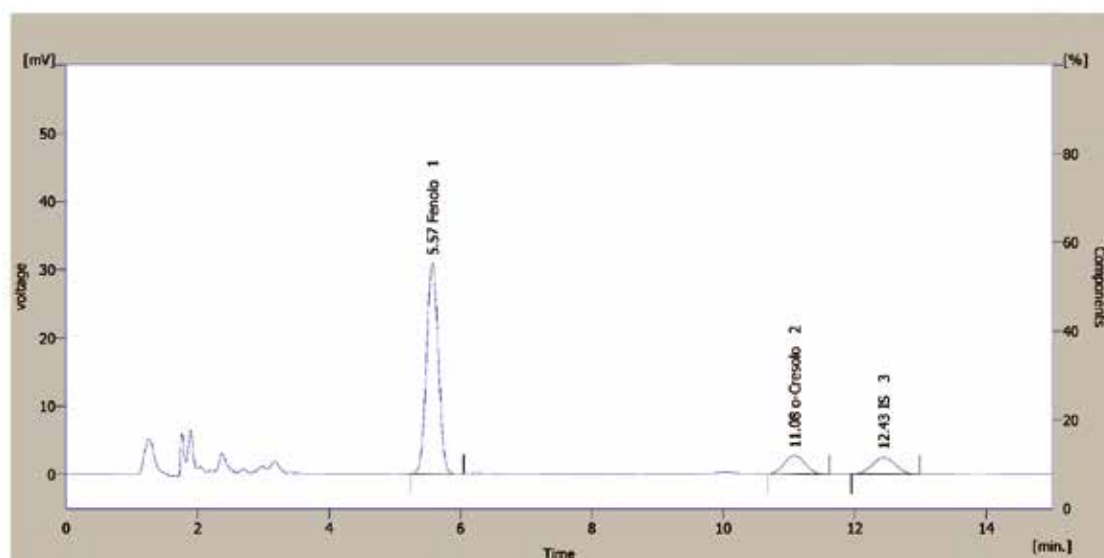
ORDERING GUIDE

Order No.	Description	Quantity
EUH07050	FloChrom® Mitotane/DDE in Plasma UV detection	50 assays
	Contents	
	Mobile Phase	1 x EUH07011
	Precipitant Solution	1 x EUH07021
	Internal Standard	1 x EUH07031
	Calibrator, liquid	1 x EUH07041
	Separately available components	
EUH07011	Mobile Phase	800 ml
EUH07021	Precipitant Solution	11 ml
EUH07031	Internal Standard	1.1 ml
EUH07041	Calibrator, liquid	2 ml
	Accessory	
EUH07090	Analytical Column with test chromatogram	1 pc
EUH07051	Control Set for Mitotane/DDE in Plasma, lyoph. (2 levels)	2x2x2 ml

SHORT METHOD DESCRIPTION

FloChrom® o-Cresol and Phenol in Urine

Toluene, Benzene and Phenol are hazardous professional substances, which are monitored through the dosage of o-Cresol and Phenol. Biological monitoring of Toluene exposed population includes the determination of Hippuric Acid and o-Cresol in the urine. Unlike Hippuric Acid, o-Cresol is not physiologically contained in the urine and is therefore suitable for evaluating the actual body load of Toluene. Phenol is a toxic substance and is considered a potential human carcinogen. Furthermore, Phenol is the main metabolite of Benzene, a powerful carcinogen, which is a component of mineral oils and fuels and which develops during combustion processes. The high volatility of Benzene causes ubiquitous diffusion in the environment. Tobacco smoke is also considered the most important source of individual exposure. Benzene is metabolized primarily to Phenol by the cytochrome P-450 2E1 system and is subsequently excreted in the urine. A minor part of benzene is oxidized to form t,t-Muconic Acid.



HPLC system conditions

Injection volume: 10-20 μl (variable according to instrumental sensitivity)

Flow rate: 1.0 mL/min

Running time: 15 min

Column heater: 30°C

UV detector: 227 nm excitation, 300 nm emission

Performance

Analyte	Linearity (mg/L)	LLOD (mg/L)	LLOQ (mg/L)	CV% Intra	CV% Inter
o-Cresol	0.21 - 50	0.06	0.21	0.6 - 2.7	4.3 - 7.7
Phenol	0.36 - 400	0.11	0.36	0.9 - 2.9	3.7 - 6.3

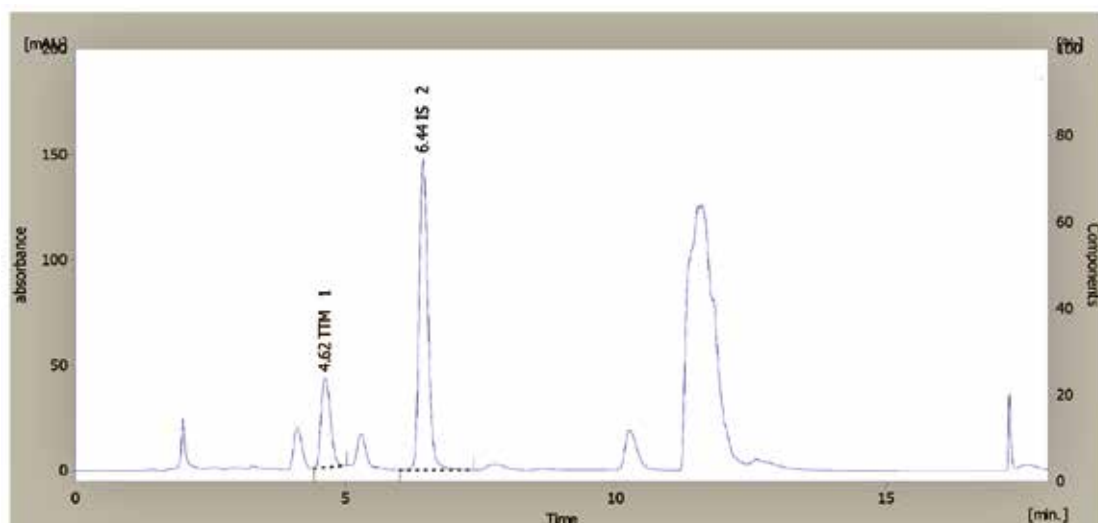
ORDERING GUIDE

Order No.	Description	Quantity
EUH10100	FloChrom® o-Cresol/Phenol in Urine Fluorimetric detection	100 assays
	Contents	
	Mobile Phase	1 x EUH10011
	Buffer Solution	1 x EUH10021
	Hydrolizing Solution	3 x EUH10022
	Activating Solution	1 x EUH10023
	Conditioning Solution	1 x EUH10024
	Washing Solution	1 x EUH10025
	Eluting Solution	1 x EUH10026
	Internal Standard	1 x EUH10031
	Calibrator for o-Cresol and Phenol in urine	2 x EUH10041
	SPE Column	2 x EUH10061
	Separately available components	
EUH10011	Mobile Phase	1000 ml
EUH10021	Buffer Solution	30 ml
EUH10022	Hydrolizing Solution	2 ml
EUH10023	Activating Solution	220 ml
EUH10024	Conditioning Solution	220 ml
EUH10025	Washing Solution	450 ml
EUH10026	Eluting Solution	220 ml
EUH10031	Internal Standard	5.5 ml
EUH10041	Calibrator for o-Cresol and Phenol in urine	2 ml
EUH10061	SPE Column	50 pcs
	Accessory	
EUH10090	Analytical Column with test chromatogram	1 pc
EUH10051	Control for Occupational Medicine (2 levels)	5x2x2,5 ml

SHORT METHOD DESCRIPTION

FloChrom® *trans, trans*-Muconic Acid

trans,trans-Muconic Acid is one of the urinary metabolites of benzene and is recommended for biological monitoring of benzene in the workplace. Benzene is a natural component of oil and petrol and an intermediate in the synthesis of numerous chemical products. It is also a ubiquitous environmental pollutant due to its formation in many combustion processes. Industrial emissions and traffic exhaust from burning fossil fuels, as well as personal smoking habits or exposure to environmental tobacco smoke can increase the risk of prolonged exposure to benzene. The main effect of benzene is the decrease of red blood cells, resulting in aplastic anemia and is associated with other blood disorders. It can also cause acute myeloid leukemia, also called acute non-lymphocytic leukemia. For this reason, the International Agency for Research on Cancer (IARC) has included it among the compounds of group 1, carcinogenic to humans. Currently, the Scientific Committee for Occupational Exposure Limits classifies it among the genotoxic carcinogens for which the existence of a threshold cannot be sufficiently supported because even low exposures are considered a significant risk.



HPLC system conditions

Injection volume: 50 μ l

Flow rate: 1.0 mL/min

Running time: 18 min

Column heater: 45°C

UV detector: 264 nm

Performance

Analyte	Linearity (mg/L)	LLOD (mg/L)	LLOQ (mg/L)	CV% Intra	CV% Inter
t.t.-muconic acid	0.252 - 20	0.076	0.252	0.7 - 1.1	3.8 - 5.3

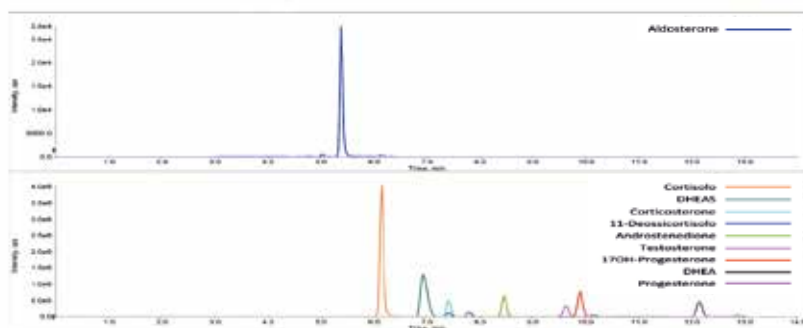
ORDERING GUIDE

Order No.	Description	Quantity
EUH1100	FloChrom® t,t-Muconic Acid in Urine Fluorimetric detection	100 assays
	Contents	
	Mobile Phase B	1 x EUH11011
	Mobile Phase A	1 x EUH11012
	Diluting Solution	1 x EUH11021
	Activating Solution	1 x EUH11022
	Conditioning Solution	1 x EUH11023
	Washing Solution	1 x EUH11024
	Eluting Solution	1 x EUH11025
	Internal Standard	1 x EUH11031
	Calibrator lyoph.	5 x EUH11041
	SPE Column	2 x EUH11061
	Separately available components	
EUH11011	Mobile Phase B	2000 ml
EUH11012	Mobile Phase A	800 ml
EUH11021	Diluting Solution	110 ml
EUH11022	Activating Solution	330 ml
EUH11023	Conditioning Solution	330 ml
EUH11024	Washing Solution	330 ml
EUH11025	Eluting Solution	330 ml
EUH11031	Internal Standard	16 ml
EUH11041	Calibrator lyoph.	2.2 ml
EUH11061	SPE Column	50 pcs
	Accessory	
EUH11090	Analytical Column with test chromatogram	1 pc
EUH10051	Control for Occupational Medicine (2 levels)	5x2x2.5 ml

SHORT METHOD DESCRIPTION

FloMass® Steroids in Serum

Steroid hormones are lipids and originate from a common precursor: cholesterol. Transformation of cholesterol to steroid hormones has an extreme physiological importance. Steroid hormones are involved in metabolism, growth and reproduction. They are in the circulatory flow, transported by specific proteins named carriers, allowing the hormone to reach its target. Spontaneous or inherited genetic mutations that may affect the synthesis of these enzymes are responsible of the alteration of normal levels of steroid hormones. Disorders of organs involved in steroids production and regulation can also bring to a steroid pathological level. It is useful to determinate steroid hormones profile rather than individual steroid analyte.



HPLC-MS/MS system conditions

Ionization: ESI/APCI positive mode, except Aldosterone analysed in negative mode

MS/MS: specific MRM

Injection volume: 20 µl

Running time: 15 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Aldosterone	0.022 - 37	0.007	0.022	1.0 - 6.5	0.6 - 10.1
Androstenedione	0.005 - 53	0.001	0.005	1.3 - 2.4	0.8 - 9.3
Corticosterone	0.024 - 225	0.007	0.024	0.3 - 4.4	5.7 - 13.3
Cortisol	1.401 - 6500	0.420	1.401	0.2 - 3.5	0.3 - 5.5
11-Deoxycortisol	0.009 - 56	0.003	0.009	1.2 - 6.6	10.3 - 16.5
DHEA (derivatized)	0.018 - 216	0.006	0.018	0.1 - 5.0	5.8 - 7.8
Progesterone	0.010 - 64	0.003	0.010	1.0 - 7.7	4.2 - 16.8
17-OH-Progesterone	0.027 - 228	0.008	0.027	0.9 - 4.3	4.0 - 9.1
DHEAS	1.554 - 2161	0.466	1.554	0.4 - 4.8	8.0 - 11.5
Testosterone	0.005 - 53	0.001	0.005	0.1 - 3.1	10.3 - 16.9

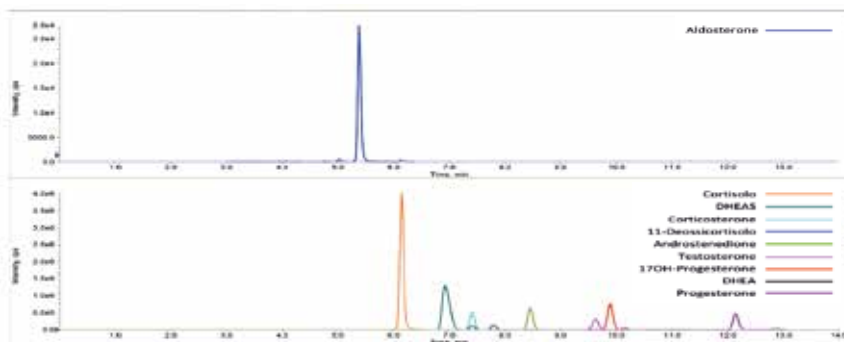
ORDERING GUIDE

Order No.	Description	Quantity
EUM01100	FloMass® Steroids in Serum (Aldosterone, Androstenedione, Corticosteron, Cortisol, 11-Deoxycortisol, Dehydroepiandrosterone, Progesterone, 17-OH-Progesterone, Dehydroepiandrosterone sulphate, Testosterone) LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM01011
	Mobile Phase B	1 x EUM01012
	Precipitant Solution	1 x EUM01021
	Internal Standard Mix	1 x EUM01031
Separately available components		
EUM01011	Mobile Phase A	800 ml
EUM01012	Mobile Phase B	500 ml
EUM01021	Precipitant Solution	70 ml
EUM01031	Internal Standard Mix	1.1 ml
Accessory		
EUM00C01	Analytical Column with test chromatogram	1 pc
EUM00A12	Precolumns	4 pcs
EUM00A13	Holder (incl. 1 precolumn)	1 pc
EUM01022	Derivatizing for DHEA	5 ml
EUM01071	FloTuning Mix A + Mix B Steroids	2x2 ml
EUM01051	Control Set for Steroids in Serum, lyoph. (3 levels)	2x3x2.5 ml
EUM01041	Calibrator Set for Steroids in Serum, lyoph. (7 levels)	2x7x1 ml

SHORT METHOD DESCRIPTION

FloMass[®] Serum Steroids (96 Microplate)

Steroid hormones are lipids and originate from a common precursor: cholesterol. Transformation of cholesterol to steroid hormones has an extreme physiological importance. Steroid hormones are involved in metabolism, growth and reproduction. They are in the circulatory flow, transported by specific proteins named carriers, allowing the hormone to reach its target. Spontaneous or inherited genetic mutations that may affect the synthesis of these enzymes are responsible of the alteration of normal levels of steroid hormones. Disorders of organs involved in steroids production and regulation can also bring to a steroid pathological level. It is useful to determinate steroid hormones profile rather than individual steroid analyte.



HPLC-MS/MS system conditions

Ionization: ESI/APCI positive mode, except Aldosterone analysed in negative mode

MS/MS: specific MRM

Injection volume: 20 μ l

Running time: 15 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Aldosterone	0.022 - 37	0.007	0.022	1.0 - 6.5	0.6 - 10.1
Androstenedione	0.005 - 53	0.001	0.005	1.3 - 2.4	0.8 - 9.3
Corticosterone	0.024 - 225	0.007	0.024	0.3 - 4.4	5.7 - 13.3
Cortisol	1.401 - 6500	0.420	1.401	0.2 - 3.5	0.3 - 5.5
11-Deoxycortisol	0.009 - 56	0.003	0.009	1.2 - 6.6	10.3 - 16.5
DHEA (derivatized)	0.018 - 216	0.006	0.018	0.1 - 5.0	5.8 - 7.8
Progesterone	0.010 - 64	0.003	0.010	1.0 - 7.7	4.2 - 16.8
17-OH-Progesterone	0.027 - 228	0.008	0.027	0.9 - 4.3	4.0 - 9.1
DHEAS	1.554 - 2161	0.466	1.554	0.4 - 4.8	8.0 - 11.5
Testosterone	0.005 - 53	0.001	0.005	0.1 - 3.1	10.3 - 16.9

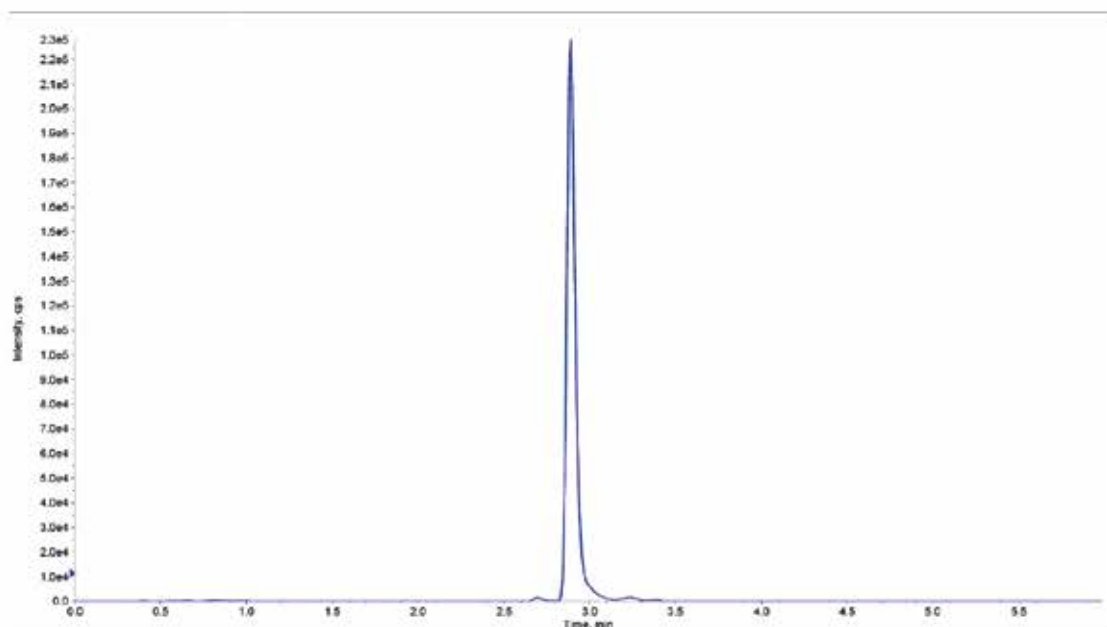
ORDERING GUIDE

Order No.	Description	Quantity
EUM13096	FloMass® Steroids in Serum (Automatable method with microplate) (Aldosterone, Androstenedione, Corticosteron, Cortisol, 11-Deoxycortisol, Dehydroepiandrosterone, Progesterone, 17-OH-Progesterone, Dehydroepiandrosterone sulphate, Testosterone) LC-MS/MS detection	96 assays
	Contents	
	Mobile Phase A	1 x EUM01011
	Mobile Phase B	1 x EUM01012
	Precipitant Solution	1 x EUM01021
	Internal Standard Mix	1 x EUM01031
	Separately available components	
EUM01011	Mobile Phase A	800 ml
EUM01012	Mobile Phase B	500 ml
EUM01021	Precipitant Solution	70 ml
EUM13031	Internal Standard Mix	0.9 ml
	Accessory	
EUM00C01	Analytical Column with test chromatogram	1 pc
EUM00A12	Precolumns	4 pcs
EUM00A13	Holder (incl. 1 precolumn)	1 pc
EUM13061	Precipitation Plate 96 wells	20 pcs
EUM13062	Collection Microplate 96 wells	24 pcs
EUM13063	Microplate cover	5 pcs
EUM01022	Derivatizing for DHEA	5 ml
EUM01071	FloTuning Mix A + Mix B Steroids	2x2 ml
EUM01051	Control Set for Steroids in Serum, lyoph. (3 levels)	2x3x2.5 ml
EUM01041	Calibrator Set for Steroids in Serum, lyoph. (7 levels)	2x7x1 ml

SHORT METHOD DESCRIPTION

FloMass[®] Aldosterone in Serum

Aldosterone is the main mineralocorticoid hormone and is produced by the glomerular zone of the adrenal cortex. As the majority of steroid hormones, Aldosterone has origin from cholesterol. Its principal function is electrolytic control. It promotes retention of sodium, chlorides and water and facilitates the elimination of potassium. It is the most active steroid hormone, 25-30 times more than deoxycorticosterone. Its mechanism of action is based on increasing the reabsorption of sodium ions and secretion of potassium ions from distal tubule and collecting duct system. A typical example of adrenal glands malfunction is Addison's disease where high level of water and sodium chloride can be excreted through urine. Patient's weakness is the main symptom. Without the correct dose of hormone, a severe dehydration can result in death. A complex-level interaction network regulates the production of aldosterone. Renin-angiotensin system and potassium are major regulators.



HPLC-MS/MS system conditions

Ionization: ESI/APCI negative mode

MS/MS: specific MRM

Injection volume: 20 μ l (variable according to instrumental sensitivity)

Running time: 6 min

Column heater: 45°C

Performance

Analyte	Linearity (pg/mL)	LLOD (pg/mL)	LLOQ (pg/mL)	CV% Intra	CV% Inter
Aldosterone	10.27 - 15000	3.08	10.27	3.0 - 4.9	4.4 - 5.0

ORDERING GUIDE

Order No.	Description	Quantity
EUM10100	FloMass® Aldosterone in serum LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM10011
	Mobile Phase B	1 x EUM10012
	Solution 1 Dilution	1 x EUM10021
	Solution 2 Extraction	1 x EUM10022
	Internal Standard	1 x EUM10031
	SLE columns	2 x EUM10061
	Separately available components	
EUM10011	Mobile Phase A	300 ml
EUM10012	Mobile Phase B	300 ml
EUM10021	Solution 1 Dilution	20 ml
EUM10022	Solution 2 Extraction	200 ml
EUM10031	Internal Standard	0.6 ml
EUM10061	SLE columns	50 pcs
	Accessory	
EUM00C10	Analytical Column with test chromatogram	1 pc
EUM00A06	Precolumns	4 pcs
EUM00A07	Holder (incl. 1 precolumn)	1 pc
EUM10071	FloTuning Aldosterone	1x2 ml
EUM10051	Control Set for Aldosterone in serum, lyoph. (3 levels)	2x3x2.2 ml
EUM10041	Calibrator Set for Aldosterone in serum, lyoph. (7 levels)	2x7x1.1 ml

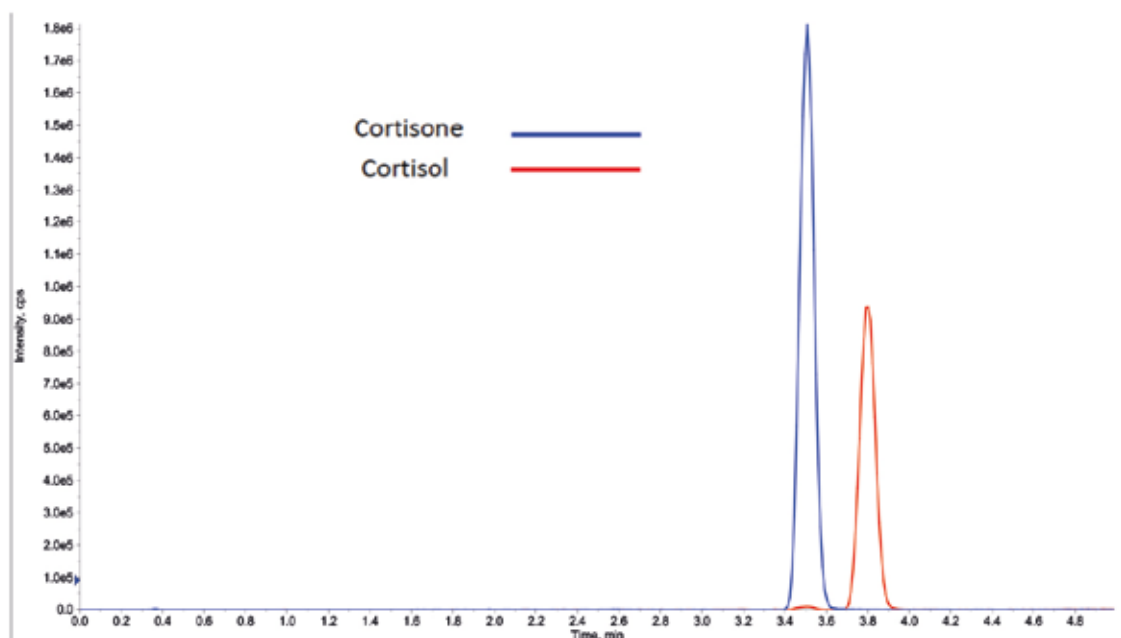
SHORT METHOD DESCRIPTION

FloMass[®] Urinary Free Cortisol and Cortisone

The analysis of free urinary Cortisol (CFU) constitutes the first approach for the screening of endogenous Cushing syndrome (CS) at biochemical laboratory level. CFU measured within 24 hours can be useful also in other clinical conditions characterized by a high level of Cortisol in serum, for example apparent mineralocorticoid excess syndrome (AME).

Cortisol is mainly secreted by adrenal glands, while Cortisone is mainly produced by 11 β -hydroxysteroid dehydrogenase 2 that converts bioactive Cortisol in inactive Cortisone preventing the activation of mineralocorticoid receptor caused by Cortisol.

Cortisol and Cortisone simultaneous determination is very important for the diagnosis of AME, CS but also congenital adrenal hyperplasia and adrenal insufficiency.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 10 μ l (variable according to instrumental sensitivity)

Running time: 6 min

Column heater: 30 $^{\circ}$ C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Cortisol	2.4 - 15000	0.8	2.4	1.9 - 9.7	2.2 - 3.5
Cortisone	2.1 - 15000	0.7	2.1	1.1 - 3.8	1.8 - 6.5

ORDERING GUIDE

Order No.	Description	Quantity
EUM06200	FloMass® Cortisol/Cortisone in Urine LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM06011
	Mobile Phase B	1 x EUM06012
	Solution 1 Precipitant	1 x EUM06021
	Internal Standard	1 x EUM06031
	Separately available components	
EUM06011	Mobile Phase A	900 ml
EUM06012	Mobile Phase B	900 ml
EUM06021	Solution 1 Precipitant	50 ml
EUM06031	Internal Standard	4.5 ml
	Accessory	
EUM00C06	Analytical Column with test chromatogram	1 pc
EUM00A06	Precolumns	4 pcs
EUM00A07	Holder (incl. 1 precolumn)	1 pc
EUM06071	FloTuning Cortisol and Cortisone	1x2 ml
EUM06051	Control Set for Cortisol/Cortisone in Urine, lyoph. (3 levels)	2x3x2 ml
EUM06041	Calibrator Set for Cortisol/Cortisone in Urine, lyoph. (6 levels)	2x6x1 ml

SHORT METHOD DESCRIPTION

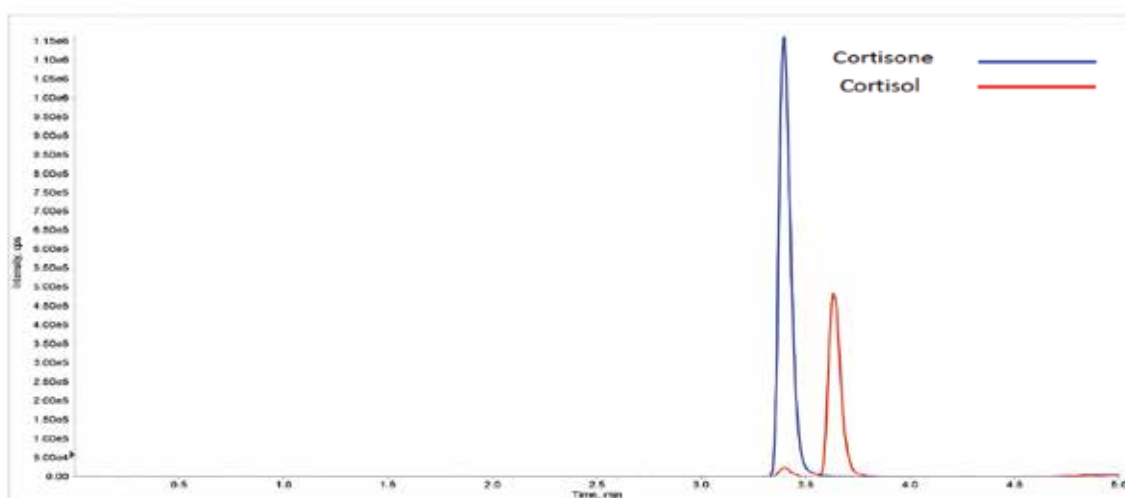
FloMass[®] Cortisol and Cortisone in Saliva

The interest in the use of the salivary matrix is increasing because, in addition to providing metabolic information, it can be collected through a simple, non-invasive method and without medical supervision.

Cortisol and Cortisone are steroid hormones synthesized in the adrenal glands starting from cholesterol. Cortisol and Cortisone are a useful target in the evaluation of mineralocorticoid or glucocorticoid excess, adrenal congenital hyperplasia and adrenal insufficiency. Furthermore, salivary cortisol increases in Cushing's syndrome, decrease in Addison's disease and can be associated with cardiovascular disease, anti-inflammatory and immunosuppressive effects.

The evaluation of salivary Cortisol and Cortisone is a good indicator of concentrations related to the proportion of free Cortisol and Cortisone, therefore not linked to transport proteins, in serum and plasma. For this reason, the analytes are at very low concentrations in the saliva samples (about 5 times lower than plasma and serum).

Therefore, it is necessary to have a sensitive and specific analytical technology to measure these low concentrations of Cortisol and Cortisone present in saliva.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 10 μ l (variable according to instrumental sensitivity)

Running time: 6 min

Column heater: 30°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Cortisol	0.019 - 200	0.0057	0.019	2.3 - 5.4	4.8 - 6.2
Cortisone	0.009 - 500	0.0027	0.009	2.5 - 4.5	5.3 - 6.2

ORDERING GUIDE

Order No.	Description	Quantity
EUM14200	FloMass® Cortisol/Cortisone in Saliva LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM06011
	Mobile Phase B	1 x EUM06012
	Solution 1 Dilution	1 x EUM14021
	Solution 2 Extraction	1 x EUM14022
	Solution 3 Reconstitution	1 x EUM14023
	Internal Standard	1 x EUM14031
	Separately available components	
EUM06011	Mobile Phase A	900 ml
EUM06012	Mobile Phase B	900 ml
EUM14021	Solution 1 Dilution	60 ml
EUM14022	Solution 2 Extraction	250 ml
EUM14023	Solution 3 Reconstitution	10 ml
EUM14031	Internal Standard	4.5 ml
	Accessory	
EUM00C06	Analytical Column with test chromatogram	1 pc
EUM00A06	Precolumns	4 pcs
EUM00A07	Holder (incl. 1 precolumn)	1 pc
EUM06071	FloTuning Cortisol and Cortisone	1x2 ml
EUM14051	Control Set for Cortisol/Cortisone in Saliva, lyoph. (3 levels)	2x3x2 ml
EUM14041	Calibrator Set for Cortisol/Cortisone in Saliva, lyoph. (6 levels)	2x6x1 ml

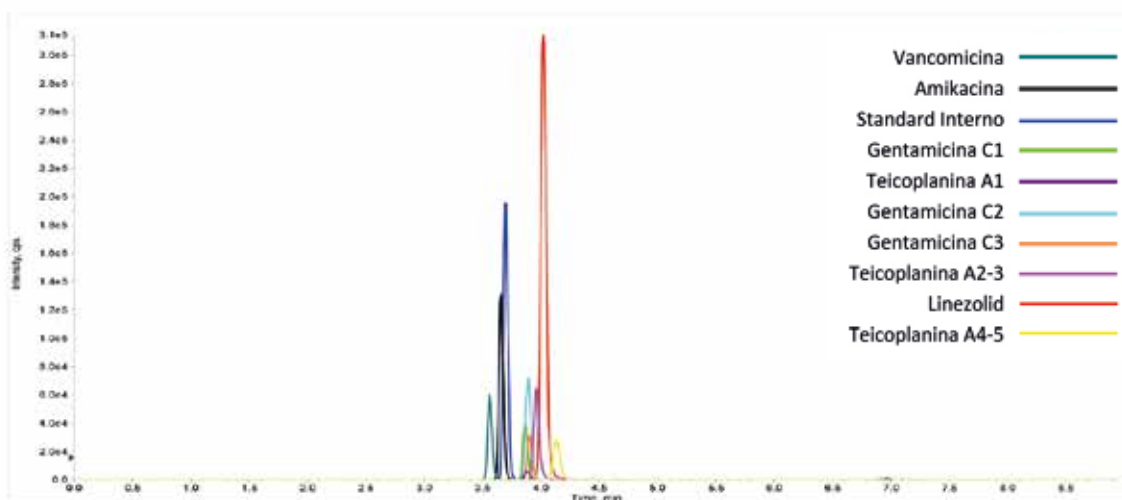
SHORT METHOD DESCRIPTION

FloMass® Antibiotics in Serum

Amikacin, Gentamicin, Vancomycin, Teicoplanin and Linezolid are antibiotics with a narrow therapeutic range, so the difference between first effective concentration and first toxic level is very close. Above the first toxic concentration, side effects can occur, even leading to serious consequences. Below first effective concentration, a selection of antibiotic-resistant bacteria is promoted, and there is the risk of ineffective antibiotic treatment.

Moreover, the metabolism of these drugs can be very different among people, therefore adjustment of drug dosage is necessary in order to obtain the optimal therapeutic effect.

For these reasons, it is highly suggested to monitor circulating therapeutic drug to avoid adverse events and keep the therapeutic effect.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 2-10 μl (variable according to instrumental sensitivity)

Running time: 10 min

Column heater: 50°C

Performance

Analyte	Linearity ($\mu\text{g/mL}$)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Amikacin	0.023 - 131	6.9	23.0	5.60 - 7.10	7.40 - 8.10
Vancomycin	0.084 - 126	25.1	83.7	4.30 - 5.50	8.80 - 11.00
Teicoplanin	0.082 - 263	24.5	81.7	3.80 - 4.50	6.70 - 11.40
Gentamicin	0.003 - 36.5	0.94	3.13	3.80 - 5.90	6.10 - 8.90
Linezolid	0.010 - 123	2.1	10.3	1.90 - 6.50	6.80 - 9.00

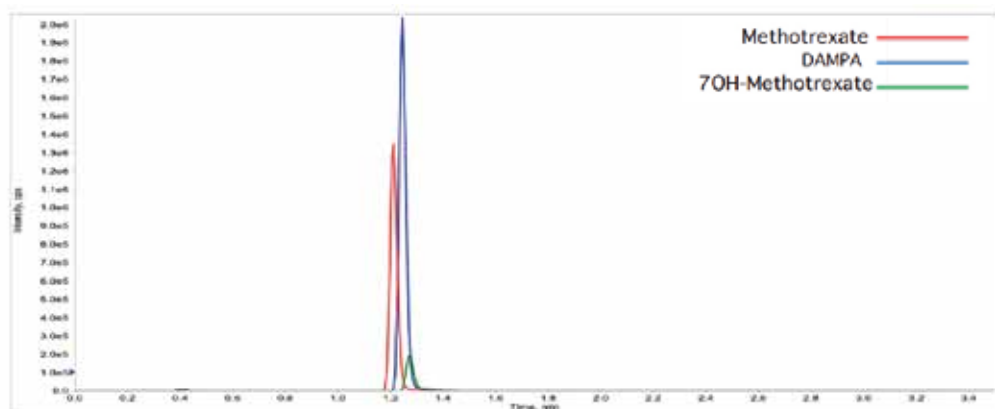
ORDERING GUIDE

Order No.	Description	Quantity
EUM15150	FloMass® Antibiotics in Serum (Gentamicin, Amikacin, Teicoplanin, Vancomycin, Linezolid) LC-MS/MS detection	150 assays
	Contents	
	Mobile Phase A	1 x EUM15011
	Mobile Phase B	1 x EUM15012
	Precipitant Solution	1 x EUM15021
	Internal Standard Mix	1 x EUM15031
	Separately available components	
EUM15011	Mobile Phase A	1000 ml
EUM15012	Mobile Phase B	1000 ml
EUM15021	Precipitant Solution	35 ml
EUM15031	Internal Standard Mix	1.5 ml
	Accessory	
EUM15023	Washing Solution	1000 ml
EUM00C15	Analytical Column with test chromatogram	1 pc
EUM00A11	Precolumns	4 pcs
EUM00A10	Holder (incl. 1 precolumn)	1 pc
EUM15071	FloTuning Antibiotics	1x2 ml
EUM15051	Control Set for Antibiotics in Serum, lyoph. (2 levels)	2x2x1 ml
EUM15041	Calibrator Set for Antibiotics in Serum, lyoph. (6 levels)	2x6x1 ml

SHORT METHOD DESCRIPTION

FloMass® Methotrexate and Metabolites in Serum

The cytotoxic action of MTX is related to the cell cycle. It inhibits the synthesis of DNA, RNA, thymidylates and proteins by acting as a competitive antagonist of folic acid. For this reason, the drug has a greater toxic effect on cells with a high replication rate, such as malignant tumor cells. MTX compromises tumor growth without causing irreversible damage to normal tissues. However, the inhibition of the development and proliferation of non-cancerous cells can lead to a series of unexpected side effects. Low doses of MTX are effective against rheumatoid arthritis, Crohn's disease and psoriasis. Due to the narrow therapeutic index of this drug, it is necessary to determine the MTX concentration in serum of patient in order to avoid intoxication (if elevated) or therapeutic failure (if low). The determination of the two main inactive metabolism is useful to monitor the pharmacokinetic trend of the molecule. 7-OH-MTX, the main metabolite of the drug, has been recognized as the main cause of nephrotoxicity because of its precipitation in the renal tubules causing kidney damage. DAMPA has a lower toxicity than 7OH-MTX. Although clinically less interesting, DAMPA is to be considered as an analytical problem because of its cross-reactivity in the immunochemical dosage of MTX, leading to an overdose of the drug. Differently, HPLC-MS/MS methods are not affected by this problem, allowing to determine the two molecules individually.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 20 μ l (variable according to instrumental sensitivity)

Running time: 3.5 min

Column heater: 50°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
MTX	0.16 - 5000	0.05	0.16	2 - 6.1	6 - 6.3
7-OH-MTX	1.38 - 10000	0.41	1.38	5.6 - 6.2	5.9 - 6.8
DAMPA	0.29 - 4000	0.09	0.29	2.4 - 3.8	3.1 - 4.3

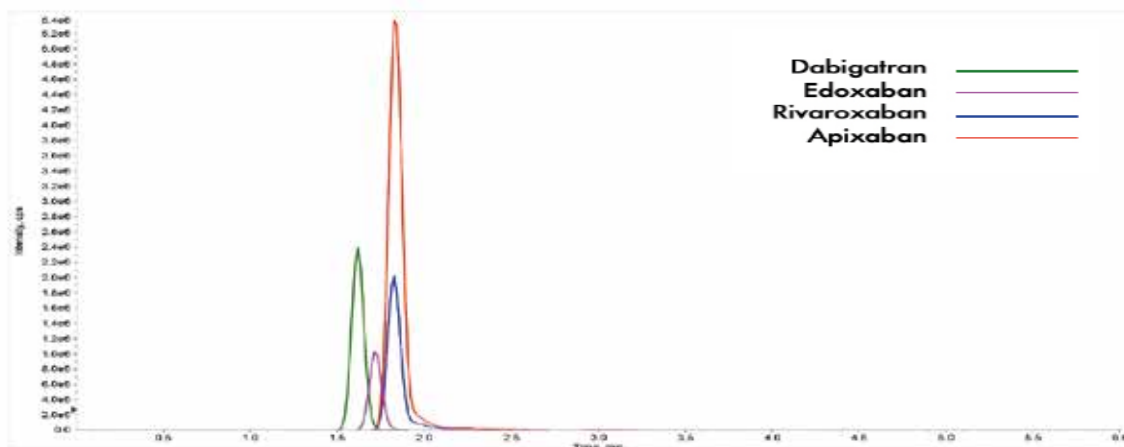
ORDERING GUIDE

Order No.	Description	Quantity
EUM16100	FloMass® MTX, 7(OH)MTX, DAMPA in Serum LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM16011
	Mobile Phase B	1 x EUM16012
	Precipitant Solution	1 x EUM16021
	Internal Standard	1 x EUM16031
	Separately available components	
EUM16011	Mobile Phase A	500 ml
EUM16012	Mobile Phase B	400 ml
EUM16021	Precipitant Solution	10 ml
EUM16031	Internal Standard	1.5 ml
	Accessory	
EUM00C16	Analytical Column with test chromatogram	1 pc
EUM16071	FloTuning MTX and 7(OH)MTX	1x2 ml
EUM16051	Control Set for Methotrexate and Metabolites in Serum, lyoph. (3 levels)	2x3x0.5 ml
EUM16041	Calibrator Set for Methotrexate and Metabolites in Serum, lyoph. (7 levels)	2x7x0.5 ml

SHORT METHOD DESCRIPTION

FloMass[®] NOAC in Serum

The development of NOACs represented an important progress in therapy for the prevention of arterial and venous thromboembolism. The “direct oral anticoagulants” DOACs or “new oral anticoagulants” NOACs are represented by Edoxaban, Rivaroxaban, Apixaban (inhibitors of coagulation factor Xa) and by Dabigatran (direct thrombin inhibitor). Although NOACs show many advantages, the reduction in hepatic metabolism and impairment of renal function can cause an increase in the plasma concentration of the drug, inducing the risk of bleeding and developing a thromboembolic episode. Since it appears that there is a direct association between the plasmatic NOAC concentration and the anticoagulant effect, it is possible to predict the existence of therapeutic plasma concentration ranges where the risk of these effects is lower. TDM (Therapeutic Drug Monitoring) is generally recommended for drugs with large pharmacokinetic variability, drugs with a narrow therapeutic index, and drugs that have no clear association between drug concentration and therapeutic effect and/or adverse reaction. Since all these points fit to NOACs, a targeted dosage is necessary for a good TDM and optimization of therapy.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 1-10 μ l (variable according to instrumental sensitivity)

Running time: 5 min

Column heater: 30°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Apixaban	0.21 - 1000	0.06	0.21	4.1 - 4.2	4.0 - 10.3
Edoxaban	0.31 - 1000	0.09	0.31	4.2 - 6.0	5.7 - 12.7
Rivaroxaban	0.21 - 1000	0.06	0.21	3.3 - 5.2	8.8 - 14.3
Dabigatran	0.41 - 1000	0.12	0.41	2.3 - 7.2	3.0 - 13.4

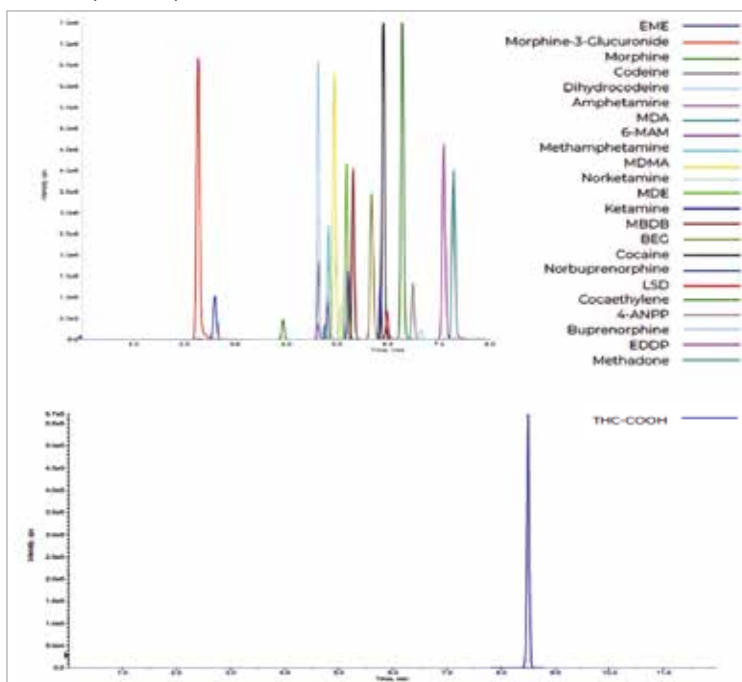
ORDERING GUIDE

Order No.	Description	Quantity
EUM12100	FloMass® NOAC in Serum LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM12011
	Mobile Phase B	1 x EUM12012
	Mobile Phase C	1 x EUM12013
	Precipitant Solution	1 x EUM12021
	Internal Standard	1 x EUM12031
	Separately available components	
EUM12011	Mobile Phase A	1000 ml
EUM12012	Mobile Phase B	600 ml
EUM12013	Mobile Phase C	250 ml
EUM12021	Precipitant Solution	25 ml
EUM12031	Internal Standard	0.6 ml
	Accessory	
EUM00C12	Analytical Column with test chromatogram	1 pc
EUM12071	FloTuning NOAC	1x2 ml
EUM12051	Control Set for NOAC in Serum, lyoph. (3 levels)	2x3x1 ml
EUM12041	Calibrator Set for NOAC in Serum, lyoph. (7 levels)	2x7x1 ml

SHORT METHOD DESCRIPTION

FloMass[®] Drugs of Abuse in Urine

Our panel of drug of abuse in urine includes: Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, Cocaine, Benzoylcegonine, Ecgoninmethylester, Coca ethylene, Morphine, Morphine 3-Glucuronate, 6-MAM, Codeine, Dihydrocodeine, THC-COOH, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamine, Norketamine, 4-ANPP and LSD.



Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)
Amphetamine	3.77 - 3552	1.13	3.77	Codeine	3.29 - 851	0.986	3.29
Methamphetamine	3.55 - 3412	1.07	3.55	Dihydrocodeine	3.31 - 782	0.992	3.31
MDA	3.08 - 3360	0.925	3.08	6-MAM	0.531 - 278	0.159	0.531
MDE	3.03 - 1630	0.910	3.03	Methadone	1.90 - 759	0.569	1.90
MDMA	2.58 - 1746	0.775	2.58	EDDP	2.15 - 814	0.646	2.15
MBDB	2.19 - 759	0.656	2.19	Buprenorphine	0.278 - 355	0.083	0.278
Cocaine	2.85 - 3012	0.856	2.85	Norbuprenorphine	0.205 - 327	0.061	0.205
BEC	2.55 - 1506	0.765	2.55	Ketamine	2.32 - 825	0.695	2.32
EME	2.55 - 2220	0.766	2.55	Norketamine	2.15 - 1868	0.645	2.15
Coca Ethylene	2.29 - 2332	0.688	2.29	4-ANPP	0.040 - 33.0	0.012	0.040
Morphine	2.61 - 3952	0.782	2.61	LSD	0.008 - 33.3	0.002	0.008
Morphine-3-Glucuronate	2.16 - 900	0.649	2.16	THC-COOH	0.572 - 864	0.172	0.572

ORDERING GUIDE

Order No.	Description	Quantity
EUM02100	FloMass® Drug of Abuse in Urine (Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, Cocaine, Benzoyllecgonine, Ecgoninmethylester, Coca ethylene, Morphine, Morphine 3-Glucuronate, 6-MAM, Codeine, Dihydrocodeine, THC-COOH, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamine, Norketamine, 4-ANPP and LSD) LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM02011
	Mobile Phase B	1 x EUM02012
	Mobile Phase C	1 x EUM02013
	Buffer Solution	1 x EUM02021
	Precipitant Solution	1 x EUM02022
	Hydrolysis Solution	1 x EUM02023
	Diluting Solution	1 x EUM02025
	Internal Standard Mix	1 x EUM02031
	Separately available components	
EUM02011	Mobile Phase A	600 ml
EUM02012	Mobile Phase B	500 ml
EUM02013	Mobile Phase C	500 ml
EUM02021	Buffer Solution	6.5 ml
EUM02022	Precipitant Solution	32 ml
EUM02023	Hydrolysis Solution	1 ml
EUM02025	Diluting Solution	12 ml
EUM02031	Internal Standard Mix	2x0.8 ml
	Accessory	
EUM00C02	Analytical Column with test chromatogram	1 pc
EUM00A04	Precolumns	4 pcs
EUM00A05	Holder (incl. 1 precolumn)	1 pc
EUM02071	FloTuning Mix A + Mix B DOA	2x2 ml
EUM02055	Control Set for Drug of Abuse in Urine, lyoph. (2 levels)	3x2x0.6 ml
EUM02042	Calibrator Set for Drug of Abuse in Urine, lyoph. (6 levels)	3x6x0.6 ml

HPLC-MS/MS system conditions

Ionization: ESI positive mode, except for THC-COOH analyzed in negative mode

MS/MS: specific MRM

Injection volume: 15 µl (variable according to instrumental sensitivity)

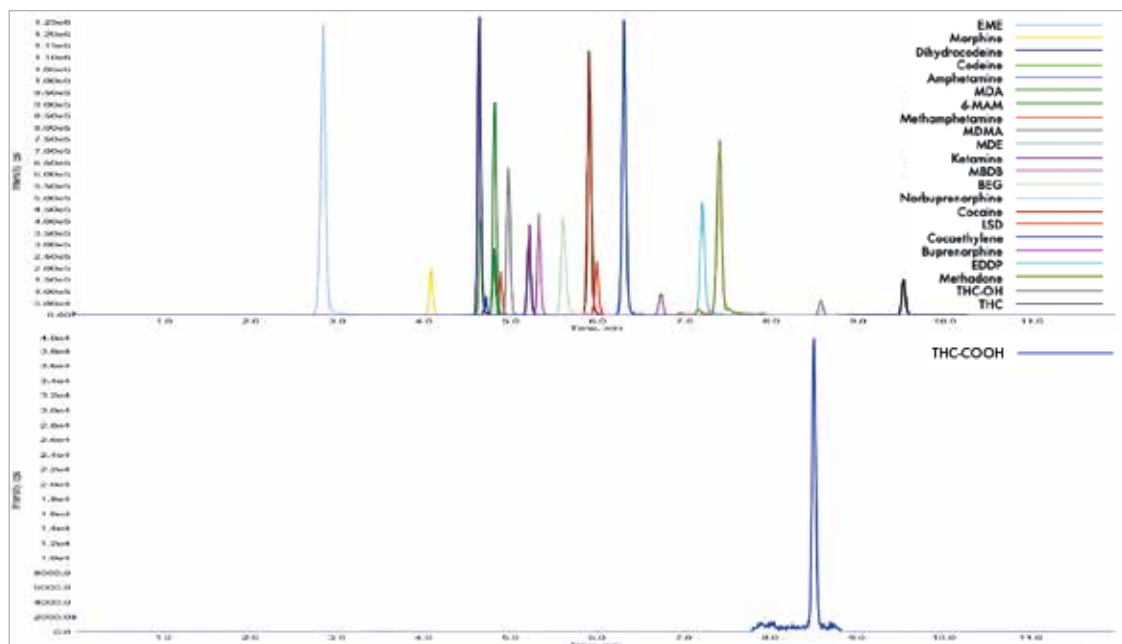
Running time: 12 min

Column heater: 40°C

SHORT METHOD DESCRIPTION

FloMass[®] Drugs of Abuse in Whole Blood

Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, BEG, Cocaine, EME, Cocaethylene, Morphine, Codeine, Dihydrocodeine, 6-MAM, THC, 11-OH-THC, THC-COOH, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamina, LSD.



Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)
Amphetamine	0.248 - 202	0.074	0.248	Dihydrocodeine	0.137 - 333	0.041	0.137
Methamphetamine	0.358 - 340	0.107	0.358	6-MAM	0.293 - 404	0.088	0.293
MDA	0.222 - 385	0.067	0.222	THC	0.117 - 65.6	0.035	0.117
MDE	0.374 - 380	0.112	0.374	THC-OH	0.173 - 60.8	0.052	0.173
MDMA	0.202 - 273	0.061	0.202	THC-COOH	0.101 - 57.2	0.030	0.101
MBDB	0.365 - 404	0.110	0.365	Methadone	0.462 - 375	0.138	0.462
Cocaine	0.298 - 367	0.089	0.298	EDDP	0.184 - 350	0.055	0.184
BEG	0.435 - 390	0.131	0.435	Buprenorphine	0.067 - 69.6	0.020	0.067
EME	0.233 - 404	0.070	0.233	Norbuprenorphine	0.096 - 74.0	0.029	0.096
Cocaethylene	0.228 - 400	0.069	0.228	Ketamine	0.418 - 484	0.125	0.418
Morphine	0.241 - 488	0.072	0.241	LSD	0.008 - 9.08	0.002	0.008
Codeine	0.209 - 365	0.063	0.209				

ORDERING GUIDE

Order No.	Description	Quantity
EUM08100	FloMass® Drug of Abuse in Whole Blood (Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, BEG, Cocaine, EME, Cocaethylene, Morphine, Codeine, Dihydrocodeine, 6-MAM, THC, 11-OH-THC, THC-COOH, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamina, LSD) LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM02011
	Mobile Phase B	1 x EUM02012
	Mobile Phase C	1 x EUM02013
	Buffer Solution	1 x EUM08021
	Precipitant Solution	1 x EUM08022
	Diluting Solution	1 x EUM08023
	Internal Standard Mix	1 x EUM08031
	Separately available components	
EUM02011	Mobile Phase A	600 ml
EUM02012	Mobile Phase B	500 ml
EUM02013	Mobile Phase C	500 ml
EUM08021	Buffer Solution	12 ml
EUM08022	Precipitant Solution	65 ml
EUM08023	Diluting Solution	12 ml
EUM08031	Internal Standard Mix	2x1 ml
	Accessory	
EUM00C02	Analytical Column with test chromatogram	1 pc
EUM00A04	Precolumns	4 pcs
EUM00A05	Holder (incl. 1 precolumn)	1 pc
EUM02071	FloTuning Mix A + Mix B	2x2 ml
EUM08055	Control Set for Drug of Abuse in Whole Blood, lyoph. (2 levels)	3x2x0.6 ml
EUM08042	Calibrator Set for Drug of Abuse in Urine, lyoph. (6 levels)	3x6x0.6 ml

HPLC-MS/MS system conditions

Ionization: ESI positive mode, except for THC-COOH analyzed in negative mode

MS/MS: specific MRM

Injection volume: 15 µl (variable according to instrumental sensitivity)

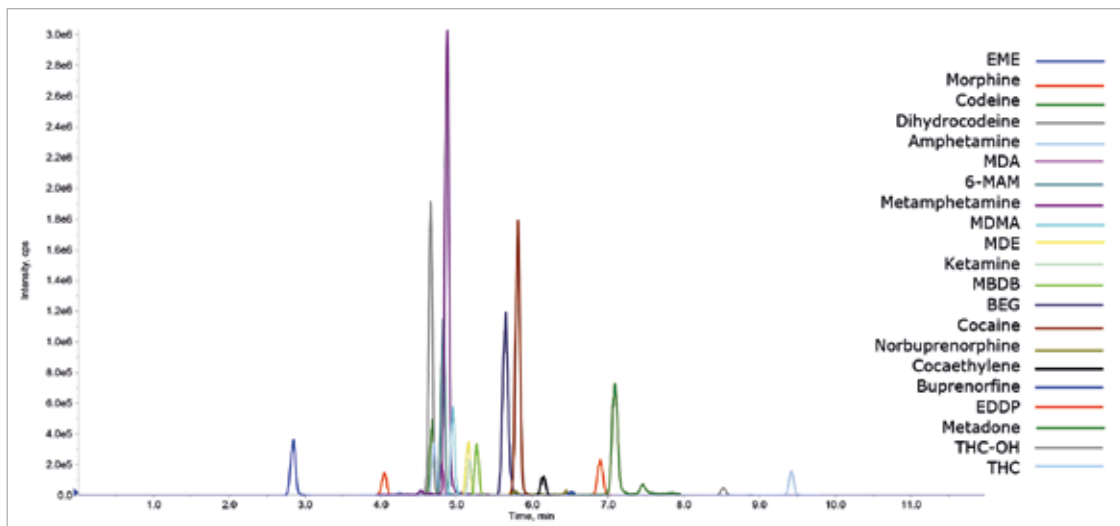
Running time: 12 min

Column heater: 40°C

SHORT METHOD DESCRIPTION

FloMass[®] Drugs of Abuse in Hair

Our panel of drug of abuse in urine includes: Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, Cocaine, Benzoyllecgonine, Ecgoninmethylester, Coca ethylene, Morphine, 6-MAM, Codeine, Dihydrocodeine, Δ^9 -THC, THC, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamine.



Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)
Amphetamine	5.21 - 10000	1.56	5.21	Codeine	0.794 - 20000	0.238	0.794
Methamphetamine	1.75 - 10000	0.525	1.75	Dihydrocodeine	0.750 - 20000	0.225	0.750
MDA	2.02 - 10000	0.605	2.02	6-MAM	1.40 - 20000	0.420	1.40
MDE	3.35 - 10000	1.01	3.35	THC	0.581 - 2500	0.174	0.581
MDMA	0.621 - 10000	0.186	0.621	THC-OH	1.57 - 2500	0.473	1.57
MBDB	0.646 - 10000	0.194	0.646	Methadone	3.20 - 10000	0.961	3.20
Cocaine	0.604 - 25000	0.181	0.604	EDDP	0.218 - 2500	0.065	0.218
BEG	0.161 - 2500	0.048	0.161	Buprenorphine	0.419 - 1000	0.126	0.419
EME	0.094 - 2500	0.028	0.094	Norbuprenorphine	1.51 - 1000	0.454	1.51
Cocaethylene	0.228 - 2500	0.068	0.228	Ketamine	1.96 - 10000	0.588	1.96
Morphine	0.682 - 20000	0.204	0.682				

ORDERING GUIDE

Order No.	Description	Quantity
EUM20100	FloMass® Drug of Abuse in Hair (Amphetamine, Methamphetamine, MDA, MDE, MDMA, MBDB, BEG, Cocaine, EME, Cocaethylene, Morphine, Codeine, Dihydrocodeine, 6-MAM, THC, 11-OH-THC, Methadone, EDDP, Buprenorphine, Norbuprenorphine, Ketamina) LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM02011
	Mobile Phase B	1 x EUM02012
	Mobile Phase C	1 x EUM02013
	Wash Solution	1 x EUM20021
	Reconstituting Solution	1 x EUM20022
	Extracting Solution	1 x EUM20023
	Diluting Solution	1 x EUM20024
	Internal Standard Mix	1 x EUM20031
	Separately available components	
EUM02011	Mobile Phase A	600 ml
EUM02012	Mobile Phase B	500 ml
EUM02013	Mobile Phase C	500 ml
EUM20021	Wash Solution	440 ml
EUM20022	Reconstituting Solution	440 ml
EUM20023	Extracting Solution	45 ml
EUM20024	Diluting Solution	20 ml
EUM20031	Internal Standard Mix	4.5 ml
	Accessory	
EUM00C02	Analytical Column with test chromatogram	1 pc
EUM00A04	Precolumns	4 pcs
EUM00A05	Holder (incl. 1 precolumn)	1 pc
EUM02071	FloTuning Mix A + Mix B DOA	2x2 ml
EUM20051	Control Set for Drug of Abuse in Whole Blood, lyoph. (2 levels)	3x2x0.4 ml
EUM20041	Calibrator Set for Drug of Abuse in Urine, lyoph. (6 levels)	3x6x0.4 ml

HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 15 µl (variable according to instrumental sensitivity)

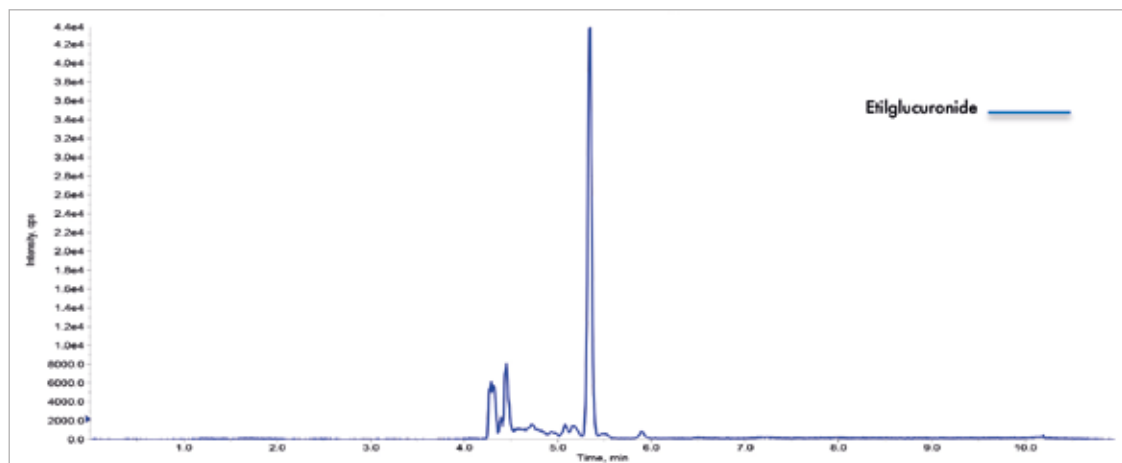
Running time: 12 min

Column heater: 40°C

SHORT METHOD DESCRIPTION

FloMass[®] Ethylglucuronide in Hair

The diagnosis of alcohol abuse is complex and delicate both for clinical-diagnostic reasons and for medico-legal implications. In addition to the classic hematological and biochemical indices usually taken into consideration (such as AST, ALT, GGT and MCV), in recent years the use of %CDT (desialated transferrin) and Ethylglucuronide has become increasingly popular. EtG is a non-volatile, polar, relatively stable molecule formed by the conjugation of ethanol with glucuronic acid. Unlike CDT, ethylglucuronide (EtG) is therefore a direct metabolite of ethanol in serum and urine up to 80 hours after the last intake. Furthermore, its presence in hair and other tissues further increases its diagnostic value. The keratin matrix, in fact, has the undoubted advantage of being able to broaden the surveillance window, theoretically allowing to identify not only a recent continuous abuse, but also an abuse in previous times. The keratin matrix has many practical advantages compared to other biological samples, such as the greater ease of collection that can also be carried out by non-medical personnel, the non-invasiveness of sampling, the easy storage of the aforementioned material and the stability of the analytes.



HPLC-MS/MS system conditions

Ionization: ESI negative mode

MS/MS: specific MRM

Injection volume: 10-20 μ l (variable according to instrumental sensitivity)

Running time: 11 min

Column heater: 30°C

Performance

Analyte	Linearity (pg/mg)	LLOD (pg/mg)	LLOQ (pg/mg)	CV% Intra	CV% Inter
ETG	1.23 - 500	0.37	1.23	9.5 - 11.3	8.2 - 12.0

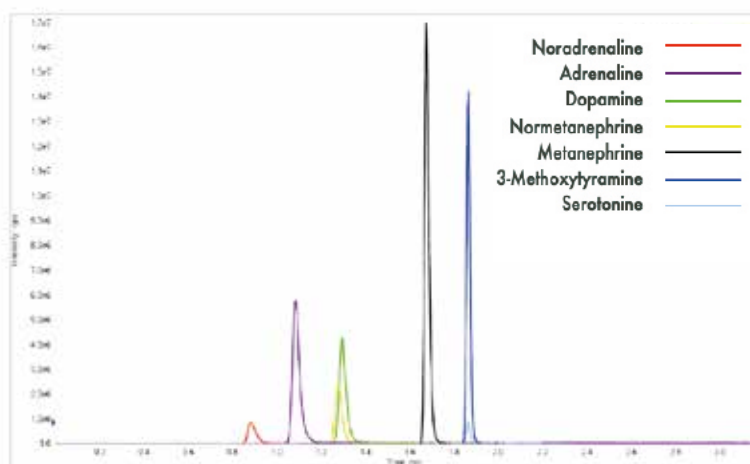
ORDERING GUIDE

Order No.	Description	Quantity
EUM04200	FloMass® Ethylglucuronide in Hairs LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM04011
	Mobile Phase B	1 x EUM04012
	Washing Reagent	1 x EUM04021
	Reconditioning Reagent	1 x EUM04022
	Extraction Reagent	1 x EUM04023
	Internal Standard	1 x EUM04031
	Separately available components	
EUM04011	Mobile Phase A	800 ml
EUM04012	Mobile Phase B	600 ml
EUM04021	Washing Reagent	850 ml
EUM04022	Reconditioning Reagent	850 ml
EUM04023	Extraction Reagent	60 ml
EUM04031	Internal Standard	1.1 ml
	Accessory	
EUM00C04	Analytical Column with test chromatogram	1 pc
EUM00A17	Precolumns	2 pcs
EUM00A18	Holder (incl. 1 precolumn)	1 pc
EUM20071	FloTuning ETG	2 ml
EUM04051	Control Set for Ethylglucuronide in Hairs, lyoph. (2 levels)	3x2x0.2 ml
EUM04041	Calibrator Set for Ethylglucuronide in Hairs, lyoph. (6 levels)	3x6x0.2 ml

SHORT METHOD DESCRIPTION

FloMass[®] Urinary Catecholamines, Free Metanephrines and Serotonin

Catecholamines are neurotransmitters produced by the adrenal gland. Once released in the body, they induce physiological changes including an increase in heart rate and blood pressure. The release of these molecules also involves bronchodilation, tachypnea and reduction of insulin resulting in the release of glucagon which is converted into blood glucose. However, their excessive production in the blood (which then also affects the urinary level) can be a symptom of pheochromocytoma, neuroblastoma and, occasionally, of other neuroectodermal tumors. Serotonin is a neurotransmitter produced at the gastrointestinal level, mainly involved in the sleep/wake cycle, hunger/satiety, intestinal motility, mood, memory and libido. It is also considered the molecule that regulates good mood and for this reason it is also known as the “happiness hormone”. A lack of serotonin leads to fibromyalgia, a disease characterized by pain and perennial muscle tension, at the origin of stiffness and difficulty in movements. An excess of serotonin instead leads to serotonin syndrome, characterized by headache, agitation, confusion, tremors, muscle twitching, chills, tachycardia, sweating, nausea and diarrhea.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 5 μ l
(variable according to instrumental sensitivity)

Running time: 3.2 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Adrenaline	3.5 - 15000	1.0	3.5	2.4 - 8.4	6.2 - 10.3
Noradrenaline	4.5 - 20000	1.5	4.5	5.9 - 7.5	5.3 - 11.9
Dopamine	10 - 15000	3.0	10.0	2.4 - 3.8	3.9 - 7.2
Metanephrine	1 - 15000	0.5	1.0	2.3 - 4.7	7.9 - 12.6
Normetanephrine	1.5 - 15000	0.5	1.5	2.2 - 7.4	4.5 - 7.7
3-Methoxytyramine	1.5 - 15000	0.5	1.5	1.8 - 2.9	4.7 - 7.5
Serotonin	4.5 - 15000	1.5	4.5	2.1 - 4.8	6.4 - 7.1

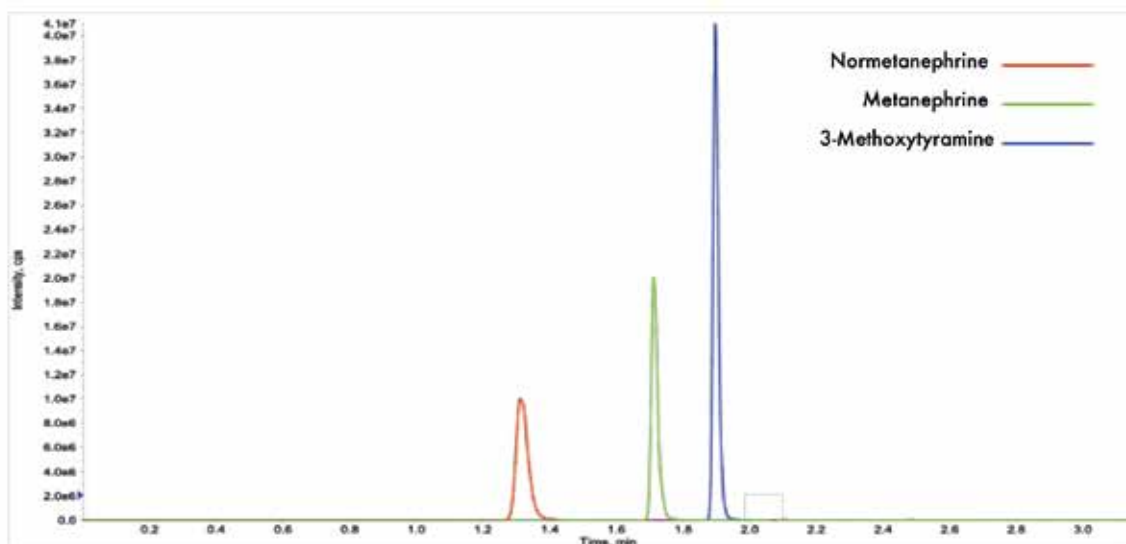
ORDERING GUIDE

Order No.	Description	Quantity
EUM17100	FloMass® Cathecolamines, Free Metanephrines and Serotonin in Urine LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM17011
	Mobile Phase B	1 x EUM17012
	Complexing Reagent	1 x EUM17021
	pH Correcting Reagent	1 x EUM17022
	SPE Activating Reagent	1 x EUM17023
	SPE Conditioning Reagent	1 x EUM17024
	SPE Washing Reagent	1 x EUM17025
	SPE Eluting Reagent	1 x EUM17026
	Internal Standard Mix	1 x EUM17031
	SPE Columns	1 x EUM17061
	Separately available components	
EUM17011	Mobile Phase A	500 ml
EUM17012	Mobile Phase B	500 ml
EUM17021	Complexing Reagent	50 ml
EUM17022	pH Correcting Reagent	10 ml
EUM17023	SPE Activating Reagent	110 ml
EUM17024	SPE Conditioning Reagent	110 ml
EUM17025	SPE Washing Reagent	110 ml
EUM17026	SPE Eluting Reagent	65 ml
EUM17031	Internal Standard Mix	2x1 ml
EUM17061	SPE Columns	100 pcs
	Accessory	
EUM00C17	Analytical Column with test chromatogram	1 pc
EUM00A14	Precolumns	5 pcs
EUM00A15	Holder (incl. 1 precolumn)	7 pc
EUM17071	FloTuning Mix A + Mix B Biogenic Amines	2x2 ml
EUM17051	Control Set for Biogenic Amines in Urine, lyoph. (Adrenaline, Noradrenaline, Dopamine, Metanephrine, Normetanephrine, 3-Methoxytyramine, Serotonin, VMA, HVA, 5-HIAA and Creatinine) (2 levels)	2x2x2 ml
EUM17041	Calibrator Set for Cathecolamines, Metanephrines and Serotonin in Urine, lyoph. (7 levels)	2x7x1 ml

SHORT METHOD DESCRIPTION

FloMass[®] Total Metanephrines in Urine

Metanephrines (Metanephrine, Normetanephrine and 3-Methoxytyramine) are molecules obtained by Catecholamines metabolism (Epinephrine, Norepinephrine and Dopamine) and their amount is linked to pheochromocytoma or others neuroendocrine tumors.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 1 μ l (variable according to instrumental sensitivity)

Running time: 3.2 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Metanephrine	0.6 - 8000	0.2	0.6	2.0 - 2.6	3.2 - 3.4
Normetanephrine	1.5 - 16000	0.4	1.5	2.0 - 3.2	2.9 - 4.1
3-Methoxytyramine	1.1 - 8000	0.3	1.1	1.5 - 1.8	3.0 - 3.6

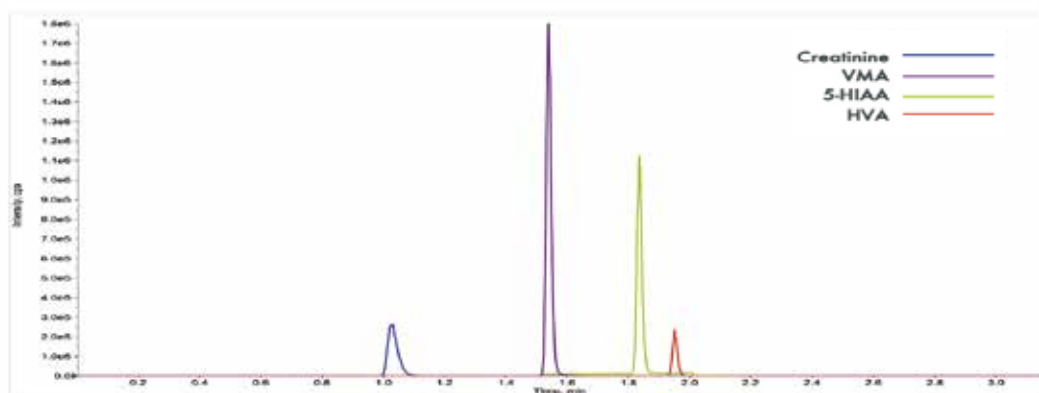
ORDERING GUIDE

Order No.	Description	Quantity
EUM18100	FloMass® Total Metanephrines in Urine LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM17011
	Mobile Phase B	1 x EUM17012
	Hidrolyxing Reagent	1 x EUM18021
	Complexing Reagent	1 x EUM18022
	pH Corrector Reagent	1 x EUM18023
	SPE Activating Reagent	1 x EUM18024
	SPE Conditioning Reagent	1 x EUM18025
	SPE Washing Reagent	1 x EUM18026
	SPE Eluting Reagent	1 x EUM18027
	Internal Standard Mix	1 x EUM18031
	SPE Columns	1 x EUM18061
	Separately available components	
EUM17011	Mobile Phase A	500 ml
EUM17012	Mobile Phase B	500 ml
EUM18021	Hydrolyzing Reagent	1.5 ml
EUM18022	Complexing Reagent	65 ml
EUM18023	pH Corrector Reagent	25 ml
EUM18024	SPE Activating Reagent	110 ml
EUM18025	SPE Conditioning Reagent	110 ml
EUM18026	SPE Washing Reagent	110 ml
EUM18027	SPE Eluting Reagent	65 ml
EUM18031	Internal Standard Mix	2x1 ml
EUM18061	SPE Columns	100 pcs
	Accessory	
EUM00C17	Analytical Column with test chromatogram	1 pc
EUM00A14	Precolumns	5 pcs
EUM00A15	Holder (incl. 1 precolumn)	1 pc
EUM17071	FloTuning Mix A + Mix B Biogenic Amines	2x2 ml
EUM17051	Control Set for Biogenic Amines in Urine, lyoph. (Adrenaline, Noradrenaline, Dopamine, Metanephrine, Normetanephrine, 3-Methoxytyramine, Serotonin, VMA, HVA, 5-HIAA and Creatinine) (2 levels)	2x2x2 ml
EUM17041	Calibrator Set for Cathecolamiones, Metanephrines and Serotonin in Urine, lyoph. (7 levels)	2x7x1 ml

SHORT METHOD DESCRIPTION

FloMass® VMA, HVA, 5-HIAA and Creatinine in Urine

Catecholamines (Epinephrine, Norepinephrine and Dopamine) are neurotransmitters produced by adrenal gland. Their release into the body causes physiological changes, including increased heart rate and arterial pressure. Catecholamines metabolism involves conversion to Metanephrines (Metanephrine, Normetanephrine and 3-Methoxytyramine), molecules linked to pheochromocytoma and others neuroendocrine tumors. Further metabolism of Metanephrines lead to formation of: VMA (Vanillylmandelic Acid), that at high levels could be a marker of pheochromocytoma, 5-HIAA (5-Hydroxyindoleacetic Acid), possible tumoral marker of carcinoid syndrome, HVA (Homovanillic Acid), useful marker in diagnosis of neuroblastoma and neuroendocrine pathologies. Creatinine in a molecule arising from Creatine degradation reaction in muscles, involved in energy-yielding metabolism. It is released into blood flow and then undergoes to glomerular filtration, then it is secreted via urine. 24 h-Creatinine blood/plasma/urine concentration is commonly used as marker of renal function. High Creatinine levels indicate nephrons damage and renal impairment, whereas low levels can occur in case of anemia, muscular atrophy, or debilitating conditions of the organism. Creatinine levels are higher in men because of higher muscular mass.



HPLC-MS/MS system conditions

Ionization: ESI negative mode

MS/MS: specific MRM

Injection volume: 1 μ l (variable according to instrumental sensitivity)

Running time: 3.2 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
VMA	0.33 - 750	0.10	0.33	2.6 - 5.2	2.7 - 5.0
5-HIAA	0.46 - 750	0.14	0.46	2.8 - 6.1	4.5 - 5.7
HVA	0.49 - 750	0.15	0.49	2.8 - 5.9	4.0 - 6.0
Creatinine	11.70 - 7500	3.50	11.70	3.2 - 4.7	2.8 - 5.9

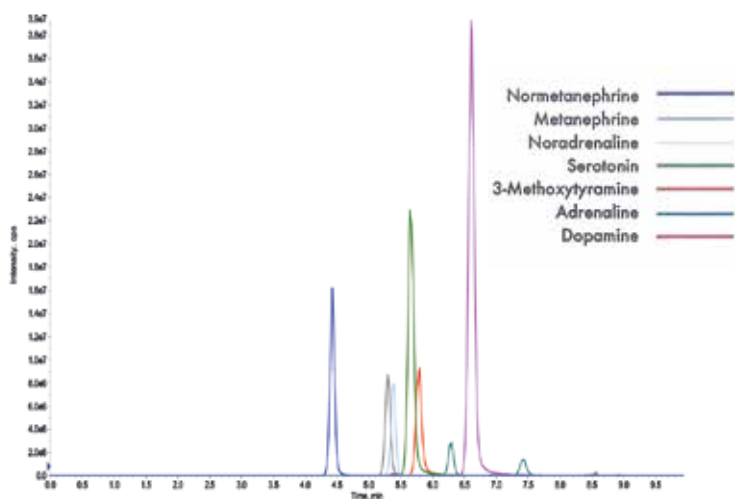
ORDERING GUIDE

Order No.	Description	Quantity
EUM19100	FloMass® VMA, HVA and 5-HIAA in Urine LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM17011
	Mobile Phase B	1 x EUM17012
	Diluting Solution	1 x EUM19021
	Internal Standard Mix	1 x EUM19031
	Separately available components	
EUM17011	Mobile Phase A	500 ml
EUM17012	Mobile Phase B	500 ml
EUM19021	Diluting Solution	110 ml
EUM19031	Internal Standard Mix	2x1 ml
	Accessory	
EUM00C17	Analytical Column with test chromatogram	1 pc
EUM00A14	Precolumns	5 pcs
EUM00A15	Holder (incl. 1 precolumn)	1 pc
EUM19071	FloTuning VMA, HVA and 5-HIAA	1x2 ml
EUM17051	Control Set for Biogenic Amines in Urine, lyoph. (Adrenaline, Noradrenaline, Dopamine, Metanephrine, Normetanephrines, 3-Methoxytyramine, Serotonin, VMA, HVA, 5-HIAA and Creatinine) (2 levels)	2x2x2 ml
EUM19041	Calibrator Set for VMA, HVA and 5-HIAA in Urine, lyoph. (7 levels)	2x7x0.5 ml

SHORT METHOD DESCRIPTION

FloMass® Urinary Catecholamines, Free/Total Metanephrines and Serotonin (online SPE)

Catecholamines are neurotransmitters produced by the adrenal gland. Once released in the body, they induce physiological changes including an increase in heart rate and blood pressure. The release of these molecules also involves bronchodilation, tachypnea and reduction of insulin resulting in the release of glucagon which is converted into blood glucose. However, their excessive production in the blood (which then also affects the urinary level) can be a symptom of pheochromocytoma, neuroblastoma and, occasionally, of other neuroectodermal tumors. Serotonin is a neurotransmitter produced at the gastrointestinal level, mainly involved in the sleep/wake cycle, hunger/satiety, intestinal motility, mood, memory and libido. It is also considered the molecule that regulates good mood and for this reason it is also known as the “happiness hormone”. A lack of serotonin leads to fibromyalgia, a disease characterized by pain and perennial muscle tension, at the origin of stiffness and difficulty in movements. An excess of serotonin instead leads to serotonin syndrome, characterized by headache, agitation, confusion, tremors, muscle twitching, chills, tachycardia, sweating, nausea and diarrhea.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 5 µl

(variable according to instrumental sensitivity)

Running time: 3.2 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
Adrenaline	1.1 - 2000	0.3	1.1	2.4 - 4.0	3.9 - 4.4
Noradrenaline	0.5 - 2000	0.2	0.5	2.5 - 3.8	4.6 - 5.1
Dopamine	3.8 - 4320	1.2	3.8	1.4 - 3.2	3.5 - 4.0
Metanephrine	2.6 - 3000	0.8	2.6	2.2 - 6.5	4.2 - 6.7
Normetanephrine	1.5 - 4800	0.5	1.5	1.9 - 3.9	4.5 - 8.6
3-Methoxytyramine	2.2 - 2000	0.7	2.2	1.6 - 4.3	4.2 - 6.3
Serotonine	9.8 - 6480	2.9	9.8	2.2 - 4.2	4.5 - 5.8

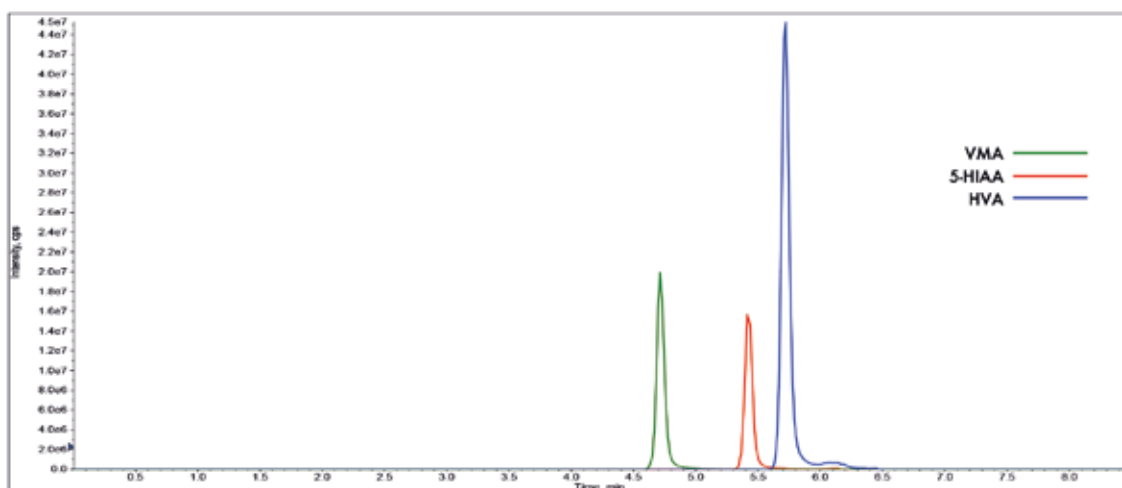
ORDERING GUIDE

Order No.	Description	Quantity
EUM22100	FloMass® Cathecolamines, Free/Total Metanephrines and Serotonin in Urine SPE on-line LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM22011
	Mobile Phase B	1 x EUM22012
	Mobile Phase C - SPE Loading	1 x EUM22013
	Diluting Reagent	1 x EUM22021
	Buffer Solution	1 x EUM22022
	Reagent Solution	1 x EUM22023
	Stabilizing Solution	1 x EUM22024
	Hydrolysis Solution	1 x EUM22025
	Neutralizing Solution	1 x EUM22026
	Internal Standard	1 x EUM22031
	Separately available components	
EUM22011	Mobile Phase A	500 ml
EUM22012	Mobile Phase B	300 ml
EUM22013	Mobile Phase C - SPE Loading	1000 ml
EUM22021	Diluting Reagent	7.5 ml
EUM22022	Buffer Solution	30 ml
EUM22023	Reagent Solution	6 ml
EUM22024	Stabilizing Solution	20 ml
EUM22025	Hydrolysis Solution	1.1 ml
EUM22026	Neutralizing Solution	2.2 ml
EUM22031	Internal Standard	0.250 ml
	Accessory	
EUM00C22	Analytical Column with test chromatogram	1 pc
EUM00S02	Loading Column	5 pcs
EUM00P01	Green Peek	1 pc
EUM17071	FloTuning Mix A + Mix B Biogenic Amines	2x2 ml
EUM17051	Control Set for Biogenic Amines in Urine, lyoph. (Adrenaline, Noradrenaline, Dopamine, Metanephrine, Normetanephrine, 3-Methoxytyramine, Serotonin, VMA, HVA, 5-HIAA and Creatinine) (2 levels)	2x2x2 ml
EUM17041	Calibrator Set for Cathecolamines, Metanephrines and Serotonin in Urine in urine, lyoph. (7 levels)	2x7x1 ml

FloMass[®] VMA, HVA and 5-HIAA in Urine (online SPE)

Catecholamines (Epinephrine, Norepinephrine and Dopamine) are neurotransmitters produced by adrenal gland. Their release into the body causes physiological changes, including increased heart rate and arterial pressure.

Catecholamines metabolism involves conversion to Metanephrines (Metanephrine, Normetanephrine and 3-Methoxytyramine), molecules linked to pheochromocytoma and others neuroendocrine tumors. Further metabolism of Metanephrines lead to formation of: VMA (Vanillylmandelic Acid), that at high levels could be a marker of pheochromocytoma, 5-HIAA (5-Hydroxyindoleacetic Acid), possible tumoral marker of carcinoid syndrome, HVA (Homovanillic Acid), useful marker in diagnosis of neuroblastoma and neuroendocrine pathologies.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 1-25 μ l (variable according to instrumental sensitivity)

Running time: 8.5 min

Column heater: 45°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
VMA	0.3 - 750	0.1	0.3	1.3 - 4.3	1.1 - 4.0
5-HIAA	0.5 - 300	0.2	0.5	0.8 - 5.2	1.7 - 4.9
HVA	0.4 - 750	0.1	0.4	2.0 - 5.6	2.3 - 5.3

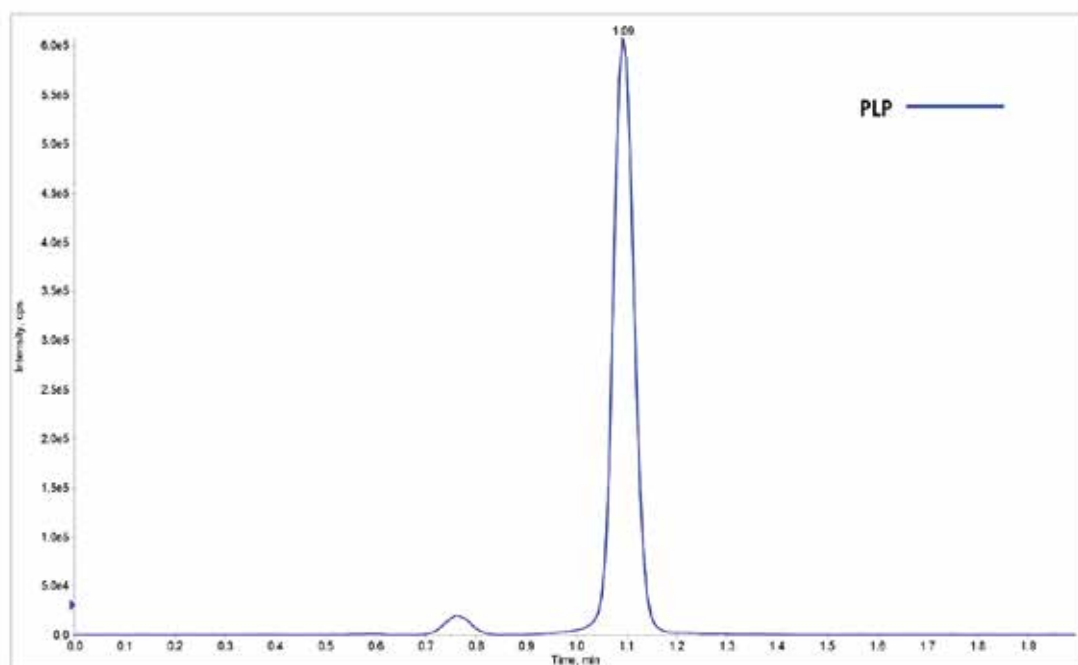
ORDERING GUIDE

Order No.	Description	Quantity
EUM24100	FloMass® VMA, HVA and 5-HIAA in Urine SPE on-line LC-MS/MS detection	100 assays
	Contents	
	Mobile Phase A	1 x EUM22011
	Mobile Phase B	1 x EUM22012
	Mobile Phase C - SPE Loading	1 x EUM22013
	Stabilizing Solution	1 x EUM24021
	Buffer Solution	1 x EUM24022
	Reagent Solution	1 x EUM24023
	Internal Standard	1 x EUM24031
	Separately available components	
EUM22011	Mobile Phase A	500 ml
EUM22012	Mobile Phase B	300 ml
EUM22013	Mobile Phase C - SPE Loading	1000 ml
EUM24021	Stabilizing Solution	120 ml
EUM24022	Buffer Solution	3 ml
EUM24023	Reagent Solution	3 ml
EUM24031	Internal Standard	4.5 ml
	Accessory	
EUM00C22	Analytical Column with test chromatogram	1 pc
EUM00S02	Loading Column	5 pcs
EUM00P01	Green Peek	1 pc
EUM19071	FloTuning VMA, HVA and 5-HIAA	1x2 ml
EUM17051	Control Set for Biogenic Amines in Urine, lyoph. (Adrenaline, Noradrenaline, Dopamine, Metanephrine, Normetanephrine, 3-Methoxytyramine, Serotonin, VMA, HVA, 5-HIAA and Creatinine) (2 levels)	2x2x2 ml
EUM19041	Calibrator Set for VMA, HVA and 5-HIAA in Urine, lyoph. (7 levels)	2x7x0.5 ml

SHORT METHOD DESCRIPTION

FloMass[®] Vitamin B6 Serum/Plasma

Vitamin B6 is a cofactor of more than 100 enzymes involved in many biological processes. Vitamin B6 is also very important for the normal cognitive function and for the reduction of coronary diseases among elderly people. Malnutrition, alcoholism or chronic renal failure may lead to low level of Vitamin B6. Vitamin B6 supplementation reduces diabetic complication and the incidence of neurodegenerative diseases. Some studies have reported a Vitamin B6 antioxidant activity also. At plasma level, Vitamin B6 has three forms: Pyridoxal-5-Phosphate (PLP), Pyridoxal (PL) and Pyridoxic Acid (PA). PLP is the only biologically active form in human body. The amount of Vitamin B6 is measured as PLP concentration in plasma or in whole blood. The dosage of plasmatic PLP is evaluated the most considerable marker for Vitamin B6 status in the tissue because reveals PLP concentration in the liver.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 20 μ l (variable according to instrumental sensitivity)

Running time: 5 min

Column heater: 30°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
PLP	0.31 - 100.00	0.09	0.31	3.66 - 8.27	8.93 - 12.98

ORDERING GUIDE

Order No.	Description	Quantity
EUM05200	FloMass® Vitamin B6 in Serum/Plasma (Pyridoxal-5-phosphate) LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM05011
	Mobile Phase B	1 x EUM05012
	Solution 1 Precipitant	1 x EUM05021
	Solution 2 Diluent	1 x EUM05022
	Internal Standard	1 x EUM05031
	Separately available components	
EUM05011	Mobile Phase A	400 ml
EUM05012	Mobile Phase B	200 ml
EUM05021	Solution 1 Precipitant	20 ml
EUM05022	Solution 2 Diluent	25 ml
EUM05031	Internal Standard	2x1 ml
	Accessory	
EUM00C05	Analytical Column with test chromatogram	1 pc
EUM00A01	Column Filter	5 pcs
EUM00A02	Holder A316 (incl. 1 filter)	1 pc
EUM00A03	Filter A-102	10 pcs
EUM05071	FloTuning Vitamin B6	1x2 ml
EUM05051	Control Set for Vitamin B6 in Serum/Plasma, lyoph. (2 levels)	2x2x1 ml
EUM05041	Calibrator Set for Vitamin B6 in Serum/Plasma, lyoph. (5 levels)	2x5x1 ml

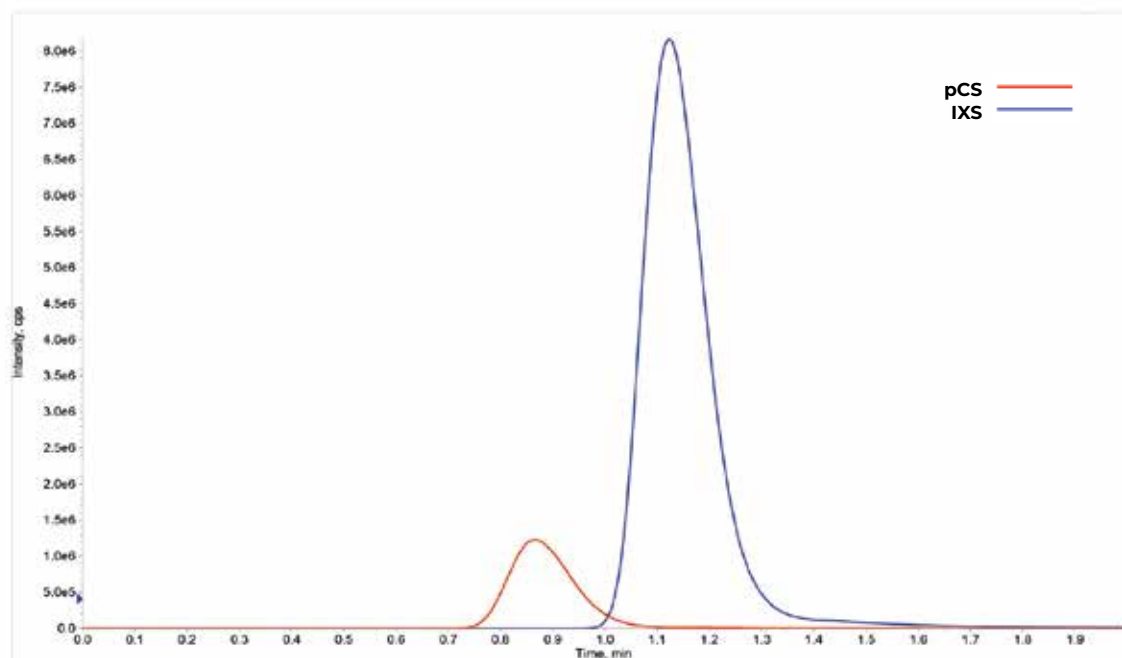
SHORT METHOD DESCRIPTION

FloMass[®] p-Cresyl Sulphate and Indoxil Sulphate (total and free) in Serum

p-Cresyl Sulfate (pCS) and Indoxyl Sulfate (IS) are uremic toxins synthesized by gut bacteria and predominantly linked to albumin.

Since only free uremic toxins are able to cross the dialytic membranes, their removal is limited in the dialysis therapies currently in use.

Increase of pCS and Indoxyl Sulfate can lead to the formation of a reversible bond to albumin in blood and, mainly in dialysis patients, can cause renal inflammation and consequent risk of complications, such as cardiovascular diseases.



HPLC-MS/MS system conditions

Ionization: ESI negative mode

MS/MS: specific MRM

Injection volume: 2 μ l (variable according to instrumental sensitivity)

Running time: 6 min

Column heater: 40°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
p-Cresyl Sulphate	0.2 - 450	0.06	0.20	1.76 - 5.82	2.34 - 4.75
Indoxyl Sulphate	0.31 - 500	0.09	0.31	4.14 - 12.8	3.4 - 6.9

ORDERING GUIDE

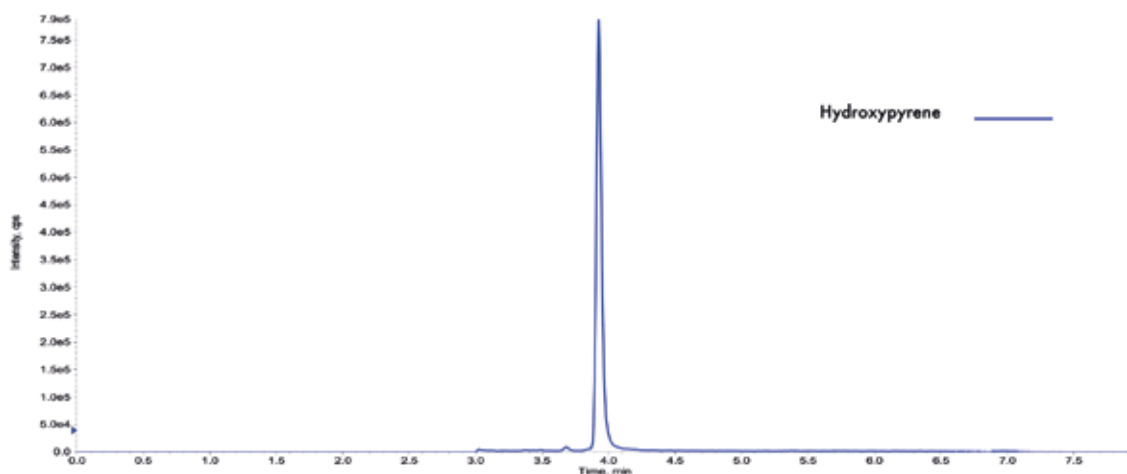
Order No.	Description	Quantity
EUM03200	FloMass® p-Cresyl Sulphate - Indoxyl Sulphate (total and free) in Plasma/Serum LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM03011
	Mobile Phase B	1 x EUM03012
	Solution 1 Precipitant	1 x EUM03021
	Internal Standard Mix	1 x EUM03031
	Separately available components	
EUM03011	Mobile Phase A	700 ml
EUM03012	Mobile Phase B	400 ml
EUM03021	Solution 1 Precipitant	60 ml
EUM03031	Internal Standard Mix	3x0.8 ml
	Accessory	
EUM00C03	Analytical Column with test chromatogram	1 pc
EUM00A01	Column Filter	5 pcs
EUM00A02	Holder A316 (incl. 1 filter)	1 pc
EUM00A03	Filter A-102	10 pcs
EUM03061	Free Fraction Separation Filters	200 pcs
EUM03071	FloTuning p-CS and IXS	1x2 ml
EUM03051	Control Set for pCS and IXS (total and free) in Plasma/Serum, lyoph. (2 levels)	2x2x0.5 ml
EUM03041	Calibrator Set for pCS and IXS (total and free) in Plasma/Serum, lyoph. (6 levels)	2x6x0.5 ml

SHORT METHOD DESCRIPTION

FloMass[®] Hydroxypyrene in Urine

1(OH)Pyr is formed in the body following a hydroxylation of pyrene as its elimination metabolite and can be used as a biomarker to assess the internal load of polycyclic aromatic hydrocarbons (PAHs). PAHs are formed during incomplete combustion of organic material, such as oil, fuels, tobacco and wood and can consist of 2 to 6 condensed benzene rings. Some of these substances are considered to be potentially carcinogenic or mutagenic. For this reason, it is important to control the levels of PAH absorbed by the body, especially in the professional field. As regards the professional field of PAHs, the sectors with the greatest exposure are those of coke processing, coal gasification and gas refining, tar and asphalt processing, aluminum production, construction of roofs and cleaning the flues. As for the non-professional sector, however, the major sources of these substances are exhaust gases, fossil fuels, wood and tobacco smoke and some food cooking processes. The main route of elimination of these substances is in the urine in the form of complexes with glucuronic acid or sulphate. PAHs are a blends, but the largest share is made up of pyrene.

For this reason, the 1(OH)Pyr allows you to obtain information on the total amount of PAHs absorbed.



HPLC-MS/MS system conditions

Ionization: ESI negative mode

MS/MS: specific MRM

Injection volume: 5-15 μ l (variable according to instrumental sensitivity)

Running time: 8.0 min

Analytical Column: 45°C

Performance

Analyte	Linearity (pg/mL)	LLOD (pg/mL)	LLOQ (pg/mL)	CV% Intra	CV% Inter
1(OH)Pyr	0.22 - 50	0.06	0.22	2.0 - 6.0	6.3 - 10.1

ORDERING GUIDE

Order No.	Description	Quantity
EUM27200	FloMass® Hydroxypyrene in Urine LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM27011
	Mobile Phase B	1 x EUM27012
	Buffer Reagent	1 x EUM27021
	Hydrolysis Reagent	1 x EUM27022
	Internal Standard	1 x EUM27031
	Separately available components	
EUM27011	Mobile Phase A	800 ml
EUM27012	Mobile Phase B	600 ml
EUM27021	Buffer Reagent	7 ml
EUM27022	Hydrolysis Reagent	0.3 ml
EUM27031	Internal Standard	1.1 ml
	Accessory	
EUM00C27	Analytical Column with test chromatogram	1 pc
EUM00A14	Precolumns	5 pcs
EUM00A15	Holder (incl. 1 precolumn)	1 pc
EUM27051	Control Set for Occupational Medicine in Urine, lyoph. (2 levels)	2x2x1.0 ml
EUM27041	Calibrator Set for Hydroxypyrene in Urine, lyoph. (6 levels)	2x6x1.0 ml

SHORT METHOD DESCRIPTION

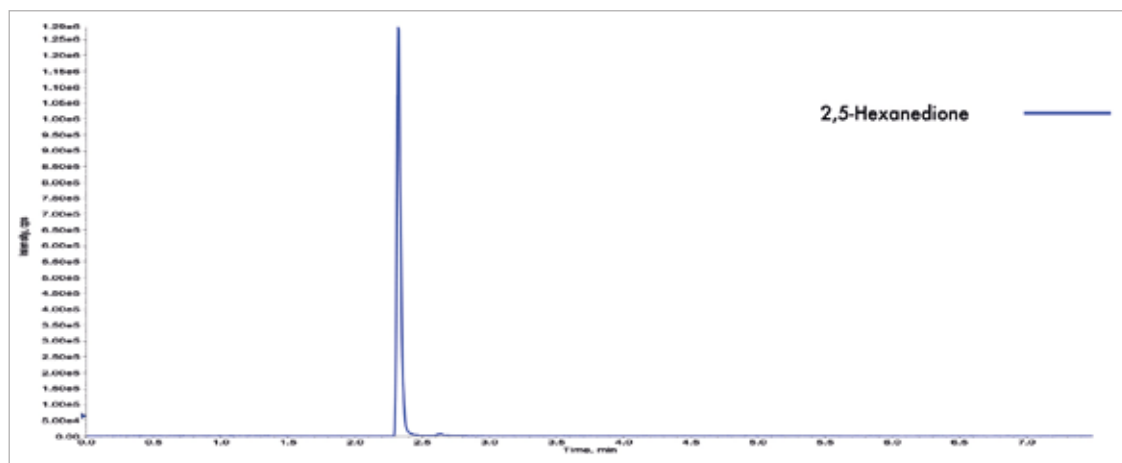
FloMass® Free 2,5-Hexanedione in Urine

Chronic exposure to n-hexane, a solvent widely used in gasoline, glues, paints, varnishes, printing inks, polyethylene and polypropylene sheets, plastics, rubbers, tires and footwear manufacturing, can lead to serious system damage nerve, classified as a distal central peripheral degenerative axonopathy.

Occupational exposure occurs mainly by inhalation, while dermal absorption occurs only by direct contact with the skin.

The metabolism of n-hexane in humans consists of a series of oxidative steps leading to the formation of numerous metabolites including 2,5-HD then eliminated in the urine after conjugation.

Toxicological studies have demonstrated that free 2,5-HD is the cause of peripheral neuropathies. In recent years, total 2,5-HD is no longer considered the best biomarker of n-hexane exposure because the hydrolysis step also converts the non-toxic metabolites of n-hexane into 2,5-HD, thus leading to an overestimation of the result and greater analytical variability.



HPLC-MS/MS system conditions

Ionization: ESI positive mode

MS/MS: specific MRM

Injection volume: 2-20 μ l (variable according to instrumental sensitivity)

Running time: 7.5 min

Column heater: 50°C

Performance

Analyte	Linearity (pg/mL)	LLOD (pg/mL)	LLOQ (pg/mL)	CV% Intra	CV% Inter
1(OH)Pyr	0.04 - 10	0.01	0.04	1.4 - 5.5	4.8 - 7.2

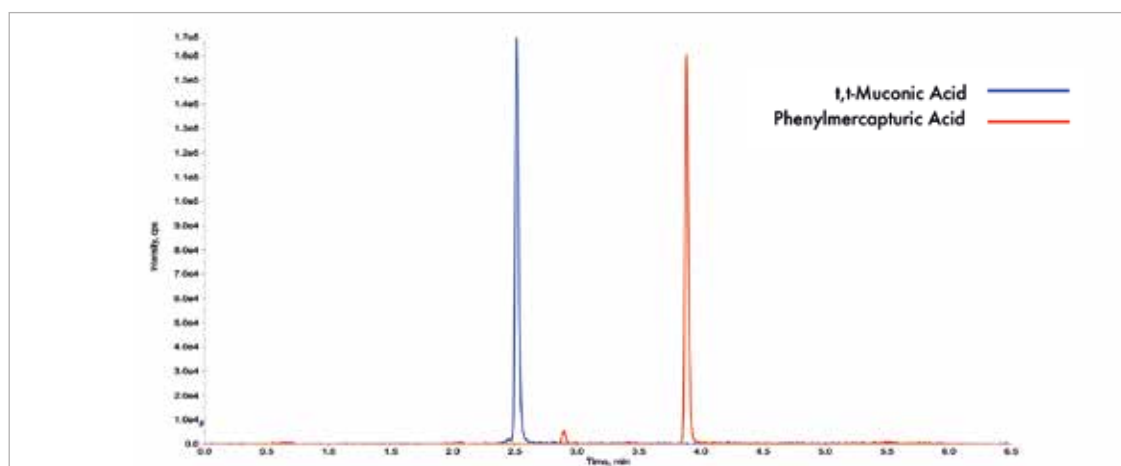
ORDERING GUIDE

Order No.	Description	Quantity
EUM28200	FloMass® 2,5 Hexanedione in Urine LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM28011
	Mobile Phase B	1 x EUM28012
	Diluting Reagent	1 x EUM28021
	Internal Standard	1 x EUM28031
	Separately available components	
EUM28011	Mobile Phase A	750 ml
EUM28012	Mobile Phase B	500 ml
EUM28021	Diluting Reagent	35 ml
EUM28031	Internal Standard	3.5 ml
	Accessory	
EUM00C28	Analytical Column with test chromatogram	1 pc
EUM28071	FloTuning 2,5 Hexanedione	2 ml
EUM27051	Control Set for Occupational Medicine in Urine, lyoph. (2 levels)	2x2x1.0 ml
EUM28041	Calibrator Set for 2,5 Hexanedione in Urine, lyoph. (6 levels)	2x6x0.5 ml

SHORT METHOD DESCRIPTION

FloMass[®] t,t-Muconic Acid and Phenylmercapturic Acid in Urine

Benzene is an important industrial chemical product, an intermediate in the synthesis of many chemicals, and a natural component of petroleum and gasoline. The main effect of benzene is the decrease of red blood cells, resulting in aplastic anemia and is associated with other blood disorders, also can cause acute myeloid leukemia/acute non-lymphocytic leukemia. For this reason, the International Agency for Research on Cancer (IARC) has included it among the carcinogenic compounds of group 1. Currently, the Scientific Committee for Occupational Exposure Limits classifies it among genotoxic carcinogens for which the existence of a threshold cannot be sufficiently supported, so even low exposures are considered a significant risk. Benzene causes toxic effects through metabolism. PMA and t,t-MA are both urinary metabolites of benzene exposure and are recommended for biological monitoring of benzene in the workplace. Although in the past the total concentration was evaluated, now it is preferable to refer to the free fraction, since there is the possibility that other molecules derived from the metabolism of benzene release t, t-MA and PMA during the hydrolysis process, thus leading to an overestimation of the obtained concentration values.



HPLC-MS/MS system conditions

Ionization: ESI negative mode

MS/MS: specific MRM

Injection volume: 2-20 μ l (variable according to instrumental sensitivity)

Running time: 6.5 min

Analytical Column: 40°C

Performance

Analyte	Linearity (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% Intra	CV% Inter
t,t-Muconic	21.7 - 10000	6.5	21.7	3.3 - 4.0	3.5 - 5.2
PMA	0.93 - 500	0.28	0.93	1.7 - 2.5	3.8 - 4.5

ORDERING GUIDE

Order No.	Description	Quantity
EUM29200	FloMass® t,t-Muconic Acid and Phenylmercapturic Acid in Urine LC-MS/MS detection	200 assays
	Contents	
	Mobile Phase A	1 x EUM29011
	Mobile Phase B	1 x EUM29012
	Diluting Reagent	1 x EUM29021
	Internal Standard	1 x EUM29031
	Separately available components	
EUM29011	Mobile Phase A	750 ml
EUM29012	Mobile Phase B	350 ml
EUM29021	Diluting Reagent	35 ml
EUM29031	Internal Standard	3.5 ml
	Accessory	
EUM00C28	Analytical Column with test chromatogram	1 pc
EUM29071	FloTuning t,t-Muconic Acid and Phenylmercapturic Acid	2 ml
EUM27051	Control Set for Occupational Medicine in Urine, lyoph. (2 levels)	2x2x1.0 ml
EUM29041	Calibrator Set for t,t-Muconic Acid and Phenylmercapturic Acid in Urine, lyoph. (6 levels)	2x6x0.5 ml



BUREAU
VERITAS

Bureau Veritas Certification

B.S.N. - BIOLOGICAL SALES NETWORK SRL

Via Coelli 16/18 - 26012 CASTELLEONE (CR) - Italy

Certified site:

Via Coelli 16/18 - 26012 CASTELLEONE (CR) - Italy

Bureau Veritas Italia S.p.A. certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 13485:2016

Scope of certification

Design, development and production of in vitro diagnostic medical devices using separate chromatographic techniques. Distribution and warehousing of in vitro diagnostic medical devices. Distribution of radioguided surgery probes and work medicine medical devices. Distribution and technical assistance of analytical equipment.

Certificate issued in accordance with the Technical Regulation ACCREDIA DT 02-DC Rev.00

Original cycle start date:	25-May-2018				
Expiry date of previous cycle:	12-April-2021				
Certification / Recertification Audit date:	25-March-2021				
Certification / Recertification cycle start date:	12-April-2021				
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	24-May-2024				
Certificate No.:	IT306190	Version:	1	Issue Date:	12-April-2021

GIORGIO LANZAFAME - Local Technical Manager

Certification body address:
Bureau Veritas Italia S.p.A., Viale Morza, 347 - 20126 Milano, Italia



SGQ N° 009A
Member of the ACCREDITED ITALIAN MANAGEMENT SYSTEMS ASSOCIATION (AIMA) - Ministry of Economic Affairs and Finance - Italy

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

To check this certificate validity please refer to the website www.bureauveritas.it





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