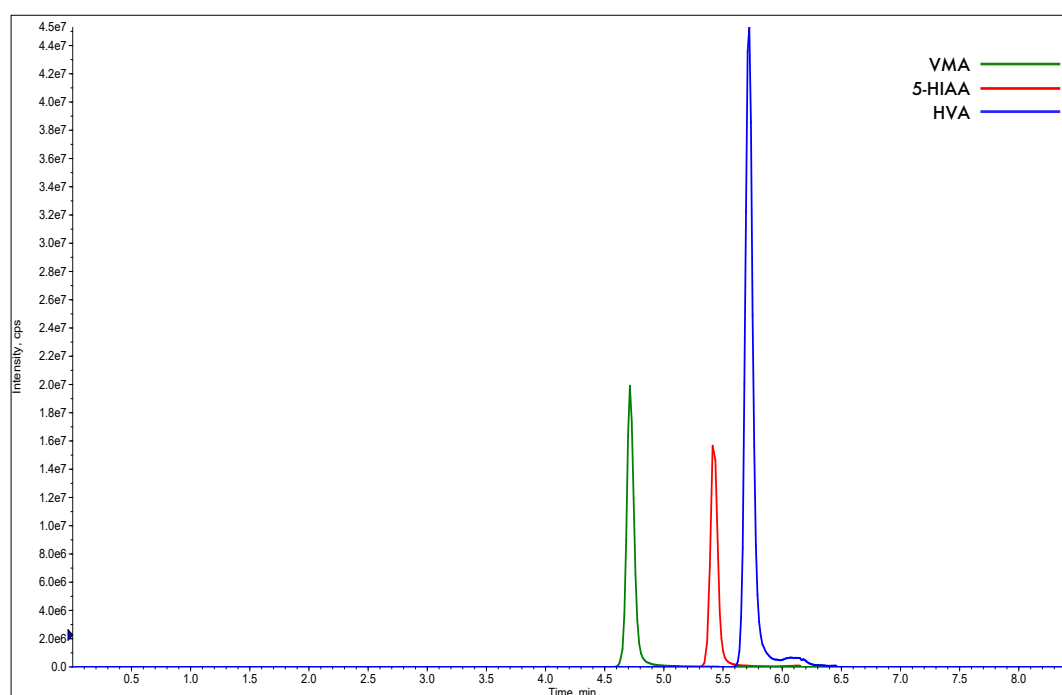


## FLOMASS<sup>®</sup> VMA, HVA AND 5-HIAA IN URINE WITH ONLINE SPE

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  $\mu$ L (variable according to instrumental sensitivity)

**Running time:** 8.5 min

**Analytical Column thermostating:** 45 °C

**Column conditioning:** column should be conditioned for 5 min at chromatographic gradient initial condition. Then, run 3 blank injections (MPA only) using the gradient as above.

## Sample preparation

- Pipette 40  $\mu$ L of urine in a vial
- Add 40  $\mu$ L of the Internal Standard Mix solution, vortex for 5 sec
- Add 920  $\mu$ L of Stabilizing Solution, vortex for 5 sec
- Transfer 50  $\mu$ L of the new mix in another vial
- Add 25  $\mu$ L of Buffer Solution
- Add 25  $\mu$ L of Reagent solution
- Place in orbital shaking for 3 min at room temperature
- Add 100  $\mu$ L of Stabilizing Solution, vortex for 5 sec
- Transfer supernatant in an autosampler vial
- Inject 1-25  $\mu$ L according to instrumental sensitivity and analyze with HPLC-MS/MS technique

## Performance

ANALYTE	LINEARITY (ng/mL)	LLOD (ng/mL)	LLOQ (ng/mL)	CV% INTRA	CV% INTER
VMA	1 - 750	0.1	0.3	1.3 - 4.3	1.1 - 4.0
5-HIAA	1 - 300	0.2	0.5	0.8 - 5.2	1.7 - 4.9
HVA	1 - 750	0.1	0.4	2.0 - 5.6	2.3 - 5.3

## Ordering guide

EUM24100	FloMass <sup>®</sup> VMA, HVA and 5-HIAA in Urine with online SPE	100 assays
EUM19041	7-Levels Calibrators, lyophil.	2 x 7 x 1 mL
EUM17051	2-Levels Controls, lyophil.	2 x 2 x 2.0 mL
EUM00C22	Chromatographic Column	1 pc
EUM00S02	Loading Column	1 pc

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