
Lab Dept: Urine/Stool

Test Name: HVA & VMA, RANDOM OR 24 HOUR URINE

General Information

Lab Order Codes: HVR (Random), HV24 (24 hour)

Synonyms: HVA/VMA Spot Test; FVMA and FHVA, Urine; VMA and HVA, Urine

CPT Codes: 83150 – Homovanillic acid
84585 – Vanillylmandelic acid, urine

Test Includes: Quantitation of homovanillic acid (HVA) and vanillylmandelic acid (VMA) in mg/g creatinine.

Logistics

Test Indications: Diagnosis and monitoring treatment of neuroblastoma and pheochromocytoma. The combination of HVA and VMA will give a positive diagnosis in 92% of cases of neuroblastoma. More than 90% of patients with pheochromocytoma will have an elevated VMA. If both VMA and metanephrines are tested, >98% of patients with pheochromocytomas will be detected.

Lab Testing Sections: Urine/Stool - Sendouts

Referred to: Fairview University Medical Center Biochemical Genetics (Fairview Test #: HVAVMA)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1 - 3 days, performed Monday – Friday results are reported the next day. Note: Specimens received before 1300 will be reported the same day.

Special Instructions: N/A

Specimen

Specimen Type: Urine, random or 24 hour collection or urine absorbed onto filter paper.

Submit only one of the following specimens:

Filter Paper Urine Collection

A filter paper collection kit may be obtained from Children's Laboratory. The kit includes one 10 x 10 cm absorbent filter paper, patient identification form and directions for specimen collection.

Collect as follows:

Label filter paper with patient name and date and time of collection in pencil (not ink).

For young infants, collect from a thoroughly wet diaper not contaminated with stool as described below. Remove the top layer of the diaper if it is the disposable type. Ultra absorbency diapers may present a problem in collecting enough urine and are not recommended for this collection. If ultra absorbency diapers are used, place several cotton balls between the diaper and the baby's genitals. The urine in the cotton ball can then be squeezed onto the filter paper. For toilet-trained children, collect 5 mL of urine and pour onto filter paper.

Remove top layer of diaper (if the disposable type). Place the filter paper between 2 wet portions of the diaper and press with fingertips until the filter becomes wet. Do this until the entire filter is damp (the filter will look darker). Alternatively, urine may be collected separately and then poured onto the filter until saturated.

Place wet filter on top of the plastic bag or on a clean non-absorbent surface. Let filter paper dry completely. Then place filter and the completed identification form in the envelope provided, and forward promptly.

Random / 24 Hour Urine Collection

If filter paper collection is not possible, submit 5 mL (Minimum: 1.2 mL) urine from a random or well mixed 24 hour urine collection in a urine container. Keep specimen refrigerated during a 24 hour collection. Send specimen refrigerated in plastic bottle. Forward promptly.

Container: A filter collection kit or leak-proof urine container

Draw Volume: Saturated filter paper, 5 mL (Minimum 1.2 mL) urine

Processed Volume: Same as Draw Volume

Collection: See special instructions above

Special Processing: Lab Staff: Store and ship urine specimens at refrigerated temperatures. Ship dry filter paper with courier at room temperature. Place the request form and dry filter paper in separate plastic transport bags.

Patient Preparation: Drugs such as L-dopa, dopamine, epinephrine and norepinephrine are metabolized to HVA and VMA and will fictitiously elevate their levels in the urine. Therefore, the patient should not be on such drugs when collecting the urine.

Sample Rejection: Insufficient urine on the filter, mislabeled specimens

Interpretive

Reference Range:

Reported in mg/g creatinine		
Age:	HVA	VMA
0 – 2 months	0.0 - 32.8	0.0 - 17.6
3 – 11 months	0.0 - 33.1	0.0 - 24.2
1 years	0.0 - 36.0	0.0 - 23.0
2 – 4 years	0.0 - 26.4	0.0 – 15.4
5 – 9 years	0.0 - 20.6	0.0 - 15.3
10 – 12 years	0.0 - 13.9	0.0 - 10.9
>13 years	0.0 - 8.9	0.0 - 8.1

Critical Values: N/A

Limitations: N/A

Methodology: Capillary Gas Chromatography (GS)/selected ion monitoring Mass Spectrometry (MS)

References: Fairview University Diagnostic Laboratories Web Page
<http://labguide.fairview.org/showTest.asp?testid=844> June 2013

Updates: 4/14/2005: Testing moved from Mayo Medical Laboratories to Fairview University Diagnostic Laboratories.
10/1/2007: Reference range updates due to new creatinine method. Posted on 12/14/2007.
5/27/2009: Minimum volume increased from 1 to 2 mL urine.
6/5/13: Minimum volume changed from 2 mL to 1.2 mL urine.