

**TEST CHANGE**

Vanillylmandelic Acid (VMA) and Homovanillic Acid (HVA), Urine  
0080470, VH

Specimen Requirements:

Patient Preparation: Abstain from medications for 72 hours prior to collection.

Collect: 24-hour or random urine. Refrigerate 24-hour specimen during collection.

Specimen Preparation: Transfer 4 mL aliquot from a well mixed 24-hour or random collection to an ARUP Standard Transport Tube. (Min: 1 mL) Record total volume and collection time interval on transport tube and test request form.

Transport Temperature: Refrigerated.

Unacceptable Conditions: Specimen types other than urine.

Remarks:

Stability: Ambient: Unacceptable; Refrigerated: 1 week; Frozen: 2 weeks

Methodology: Quantitative High Performance Liquid Chromatography-Tandem Mass Spectrometry

Performed: Sun, Tue, Wed, Thu, Fri, -Sat

Reported: 1-54 days

Note: Moderately elevated HVA (homovanillic acid) and VMA (vanillylmandelic acid) can be caused by a variety of factors such as essential hypertension, intense anxiety, intense physical exercise, and numerous drug interactions (including some over-the-counter medications and herbal products). Medications that may interfere with catecholamines and their metabolites include amphetamines and amphetamine-like compounds, appetite suppressants, bromocriptine, buspirone, caffeine, chlorpromazine, clonidine, disulfiram, diuretics (in doses sufficient to deplete sodium), epinephrine, glucagon, guanethidine, histamine, hydrazine derivatives, imipramine, levodopa (L-dopa, Sinemet), lithium, MAO inhibitors, melatonin, methyl dopa (Aldomet), morphine, nitroglycerin, nose drops, propafenone (Rythmol), radiographic agents, rauwolfia alkaloids (Reserpine), tricyclic antidepressants, and vasodilators. The effects of some drugs on catecholamine metabolite results may not be predictable.

CPT Codes: 83150; 84585

New York DOH Approval Status: This test is New York DOH approved.

**Interpretive Data:**

Vanillylmandelic acid (VMA) and homovanillic acid (HVA) results are expressed as a ratio to creatinine excretion (mg/g CRT). No reference interval is available for results reported in units of mg/L. Slight or moderate increases in catecholamine metabolites may be due to extreme anxiety, essential hypertension, intense physical exercise, or drug interactions. Significant increase of one or more catecholamine metabolites (several times the upper reference limit) is associated with an increased probability of a secreting neuroendocrine tumor.

Per 24h calculations are provided to aid interpretation for collections with a duration of 24 hours and an average daily urine volume. For specimens with notable deviations in collection time or volume, ratios of analytes to a corresponding urine creatinine concentration may assist in result interpretation.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Reference Interval:

Test Number	Components	Reference Interval		
	Creatinine, Urine - per 24h			
		Age	Male (mg/d)	Female (mg/d)
		3-8 years	140-700	140-700
		9-12 years	300-1300	300-1300
		13-17 years	500-2300	400-1600
		18-50 years	1000-2500	700-1600
		51-80 years	800-2100	500-1400
		81 years and older	600-2000	400-1300
	Homovanillic Acid - per 24h	18 years and older: 0.0-15.0 mg/d		
	Vanillylmandelic Acid - per 24h	18 years and older: 0.0-7.0 mg/d		
	Vanillylmandelic Acid - ratio to CRT			
		Age	mg/g CRT	
		0-2 years	0-27	
		3-5 years	0-13	
		6-17 years	0-9	
		18 years and older	0-6	
	Homovanillic Acid - ratio to CRT			
		Age	mg/g CRT	
		0-2 years	0-42	
		3-5 years	0-22	
		6-17 years	0-15	
		18 years and older	0-8	