

## Complete Hormones – Analytes

Urinary Pregesterones	Urinary Glucocorticoids	Urinary Androgens	Urinary Estrogens
Pregnanediol	Cortisol, Free	Testosterone	Estrone
Pregnanetriol	<b>Total 17-Hydroxy-corticosteroids</b>	Dehydroepiandrosterone (DHEA)	Estradiol
	allo-Tetrahydrocortisol, a-THF	<b>Total 17-Ketosteroids</b>	Estriol
	Tetrahydrodeoxycortisol	Androsterone	2-Hydroxyestrone
	Tetrahydrocortisol, THF	Etiocholanolone	2-Methoxyestrone
	Tetrahydrocortisone, THE	11-Keto-androsterone	4-Hydroxyestrone
	17-Hydroxysteroids, Total	11-Keto-etiocholanolone	4-Methoxyestrone
	Pregnanetriol	11-Hydroxy-androsterone	16 $\alpha$ -Hydroxyestrone
		11-Hydroxy-etiocholanolone	2-Hydroxy-estrone:16 $\alpha$ -Hydroxyestrone ratio
			2-Methoxyestrone:2-Hydroxyestrone ratio
			4-Methoxyestrone:4-Hydroxyestrone ratio

### ● Specimen Requirements

- 120 ml aliquot, refrigerated until shipped, from either First Morning Urine or 24-Hour Collection

### ● Related Profiles:

- Male Hormonal Health™
- Male Hormones Plus™
- Essential Estrogens™

### ● Add-On Tests:

- Cortisol, Free
- Triiodothyronine, T3
- Aldosterone (available on 24-hour only)

### ● Value-added Services

- Medical Education Consultations
- Online Resources
- Educational Webinars
- Convenient Billing Options

\*\*Not available in New York

Turnaround times, sample reports, and additional information is available online at [www.metamatrix.com/allergix](http://www.metamatrix.com/allergix)



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## Comprehensive Urinary Hormone Assessments



### ADVANCING THE CLINICAL UTILITY OF URINARY HORMONE ASSESSMENT

**Complete Hormones™** is Genova's most comprehensive urinary hormone profile, and is designed to assist with the clinical management of hormone-related symptoms. This profile assesses parent hormones and their metabolites as well as key metabolic pathways, and provides insight into the contribution that sex hormones may have in patients presenting with hormone-related complaints.

#### The Complete Hormones profile evaluates:

- Progesterones and metabolites (glucocorticoids), including cortisol
- Androgens and metabolites, including DHEA and testosterone
- Estrogens (E1 Estrone, E2 Estradiol, E3 Estriol) and metabolites, including hydroxylated and methoxylated estrogens
- Methylation capacity
- Anabolic/Catabolic Balance

#### The Complete Hormones profile provides insight into the impact that shifting hormone levels may play in:

- Weight gain
- Anxiety
- Fatigue
- Low libido
- Hair loss
- Sleep disturbances
- Brain fog
- Mood instability
- Hot flashes
- Vaginal dryness

#### Why Use Complete Hormones?

Hormone testing is an effective tool for assessing and managing patients with hormone-related symptoms. This profile supports:

- Simple, at-home specimen collection
- A choice of specimen collection, First Morning Void (FMV) or 24-Hour Urine Collection, for specific clinical use for female or male patients
- Establishing a baseline assessment of parent hormones and their metabolites ahead of clinical intervention with hormone therapy as well as subsequent monitoring if needed
- Identifying imbalances that may be the root cause of hormone-related symptoms and/or risk in specific patient populations
- Evaluating the influence of stress on key metabolic pathways
- Personalizing HT, targeted nutritional supplementation and/or dietary/lifestyle recommendations to improve symptoms and quality of life



SLEEP DISTURBANCES



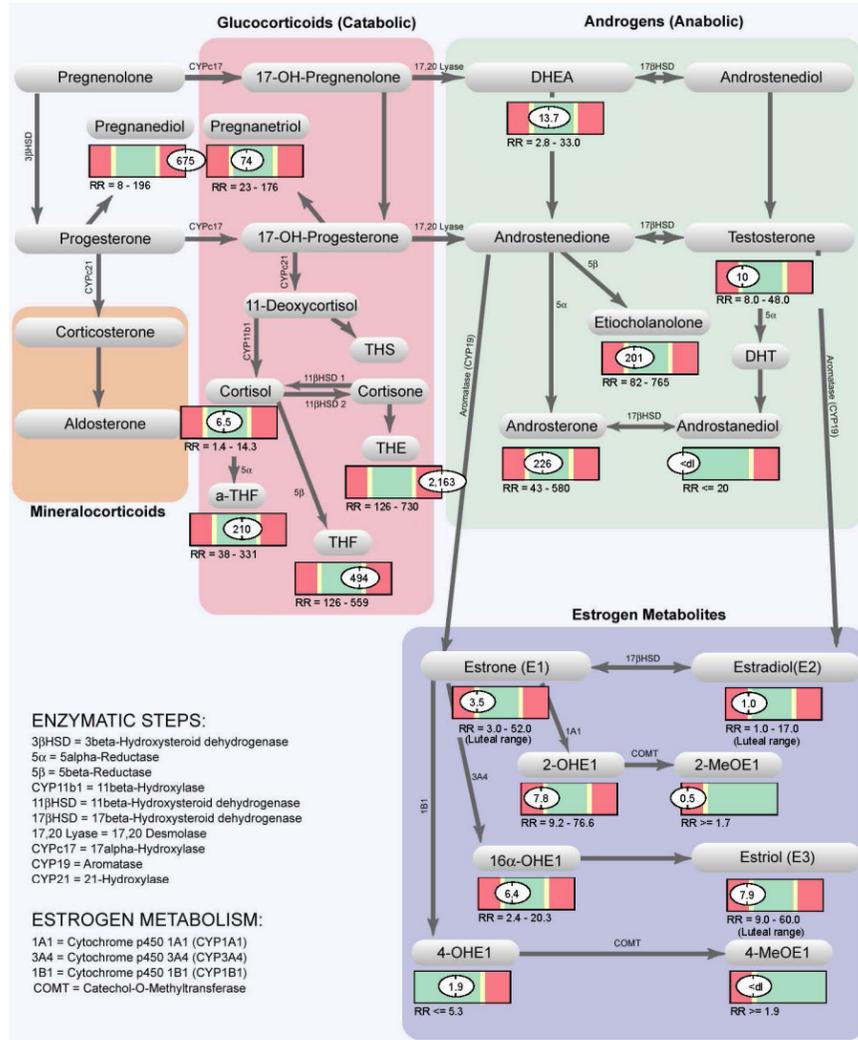
PERIMENOPAUSAL/MENOPAUSAL SYMPTOMS



FATIGUE

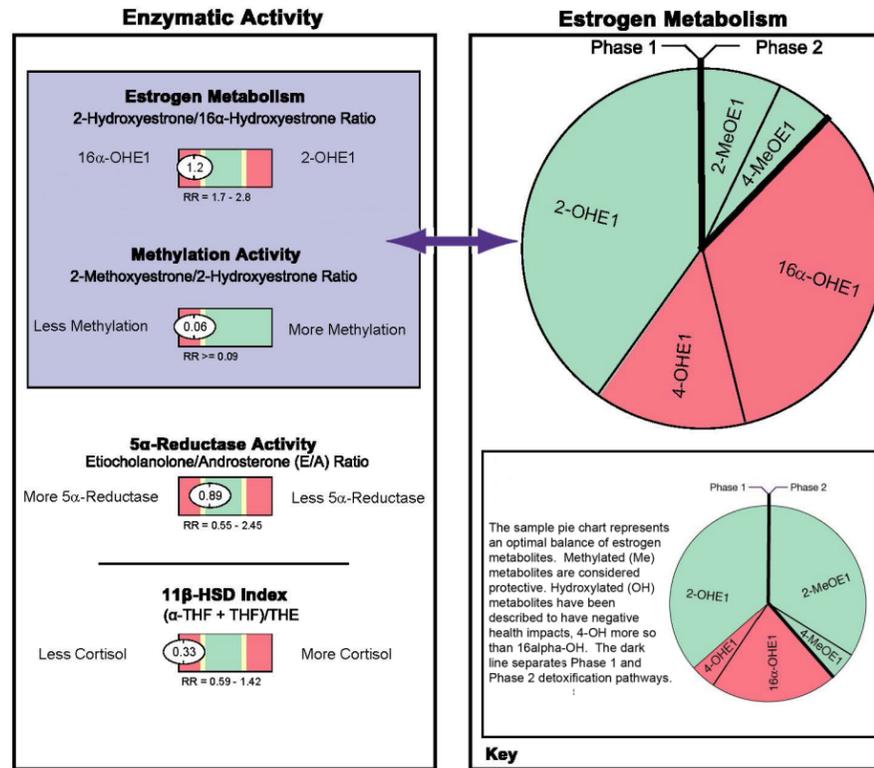
Complete Hormones is Especially Ideal for Patients with These Concerns





### Steroidogenic Pathway

Hormonal metabolism is dependent upon the appropriate functioning of numerous key enzymes. These enzymes are impacted by a variety of factors - drugs, foods, supplements, disease states - that can either up-regulate or down-regulate their activity. The assessment of urinary steroid metabolites indicates pathways potentially in need of therapeutic intervention.



**Estrogens Reference Range**

Estrone (FMV urine)*	3.5	3.0-52.0 mcg/g Creat.
* Luteal reference range shown		
Estradiol (FMV urine)*	1.0	1.0-17.0 mcg/g Creat.
* Luteal reference range shown		
Estriol (FMV urine)*	7.9	9.0-60.0 mcg/g Creat.
* Luteal reference range shown		

Phase	Reference Range
Follicular	1-13 mcg/g Creat.
Midcycle	11-46 mcg/g Creat.
Luteal	3-52 mcg/g Creat.
Menopausal	3-52 mcg/g Creat.
Male	2-9 mcg/g Creat.

### Urinary Estrogens

Estrogen metabolism is important in the health of both men and women.

The assessment of urinary estrogens and estrogen metabolites helps to identify risk factors for estrogen-associated conditions and provides a convenient clinical tool for monitoring hormone therapy.

### Estrogen Metabolites

2-Hydroxyestrone (FMV urine)	7.8	9.2-76.6 mcg/g Creat.
16α-Hydroxyestrone (FMV urine)	6.4	2.4-20.3 mcg/g Creat.
4-Hydroxyestrone (FMV urine)	1.9	<= 5.3 mcg/g Creat.
2-Methoxyestrone (FMV urine)	0.5	>= 1.7 mcg/g Creat.
4-Methoxyestrone (FMV urine)	<dl	>= 1.9 mcg/g Creat.

### Ratios

Anabolic/Catabolic Balance (FMV)	0.25	1.00-3.86
11β-HSD Index (FMV urine)	0.33	0.59-1.42
E/A: 5β/5α Ratio (FMV urine)	0.89	0.55-2.45
2-Hydroxyestrone/16α-Hydroxyestrone Ratio (FMV urine)	1.2	1.7-2.8
2-Methoxyestrone/2-Hydroxyestrone Ratio	0.06	>= 0.09

**Progesterone Reference Range**

Pregnanediol (FMV urine)	675	8-196 nmol/dL (SG)
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### Androgens Reference Range

**17-Ketosteroids Reference Range**

DHEA (FMV urine)	13.7	2.8-33.0 nmol/dL (SG)
Androsterone (FMV urine)	226	43-580 nmol/dL (SG)
Etiocholanolone (FMV urine)	201	82-765 nmol/dL (SG)
11-Keto-androsterone (FMV urine)	<dl	40-230 nmol/dL (SG)
11-Keto-etiocholanolone (FMV urine)	71	46-258 nmol/dL (SG)
11-Hydroxy-androsterone (FMV urine)	140	43-391 nmol/dL (SG)
11-Hydroxy-etiocholanolone (FMV urine)	75	49-336 nmol/dL (SG)
17-Ketosteroids, Total* (FMV urine)	735	303-2,184 nmol/dL (SG)

\* Total values equal the sum of all measurable parts

Testosterone (FMV urine)	10	8-48 nmol/dL (SG)
Androstenediol (FMV urine)	<dl	<= 20 nmol/dL (SG)

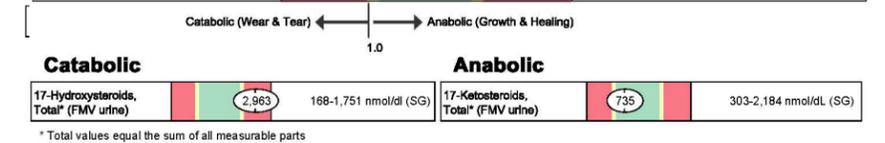
### Glucocorticoids Reference Range

**17-Hydroxysteroids Reference Range**

Pregnanetriol (FMV urine)	74	23-176 nmol/dL (SG)
allo-Tetrahydrocortisol, a-THF (FMV urine)	210	38-331 nmol/dL (SG)
Tetrahydrodeoxycortisol (FMV urine)	22.0	<= 7.7 nmol/dL (SG)
Tetrahydrocortisone, THE (FMV urine)	2,163	126-730 nmol/dL (SG)

**Anabolic/Catabolic Balance 17-Ketosteroids/17-Hydroxysteroids Ratio**

Anabolic/Catabolic Balance (FMV)	0.25	1.00-3.86
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The Anabolic/Catabolic ratio is reflective of the balance between urinary metabolites that are generally associated with growth and healing (17-ketosteroids) versus the catabolic metabolites associated with chronic stress and "wear and tear" (17-hydroxysteroids).

Excessive catabolic or anabolic activity has been linked with various disease states. Catabolic dominance - known as the "catabolic shift" - is the pattern more commonly seen and is associated with the whole-body effects of aging.

