

# ComprehensivePLUS Hormone Profile

Comments:

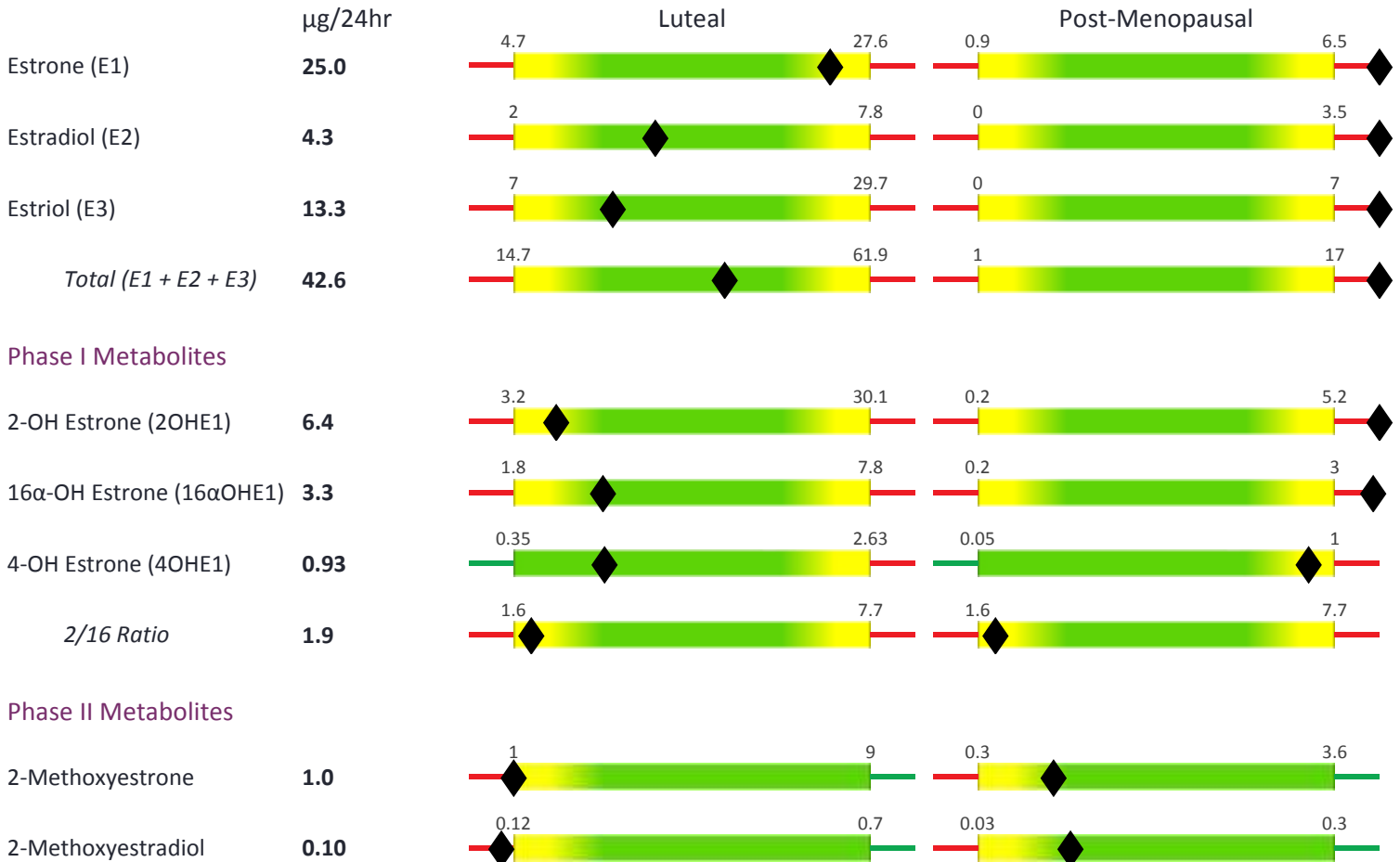


## Estrogens

### Reference Ranges

Refer to the luteal reference range for cycling women collecting during the luteal phase and for postmenopausal women currently using estrogen and/or progesterone.

Refer to the post-menopausal reference range for post-menopausal women not currently using hormones.



### Other Reference Ranges

	Estrone	Estradiol	Estriol	Estrogen Total	Pregnanediol
Follicular	2.0-39	1.0-23	3.0-48	7.0-110	0-2500
Mid-Cycle	11.0-46	4.0-45	20-130	38-221	N/A



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Accession #:

Test Code: **4080**

Patient Name:

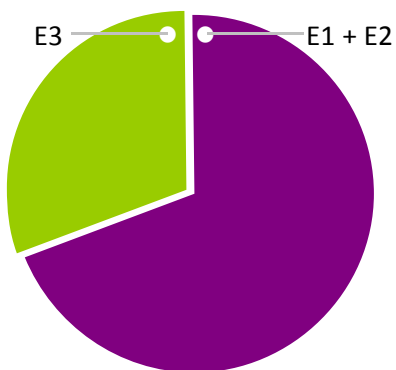
## Estrogen Ratios

### Estrogen Ratios

Estrogen Quotient: 0.5

$E3/(E1+E2)$

**Patient Result**



**Reference Range**

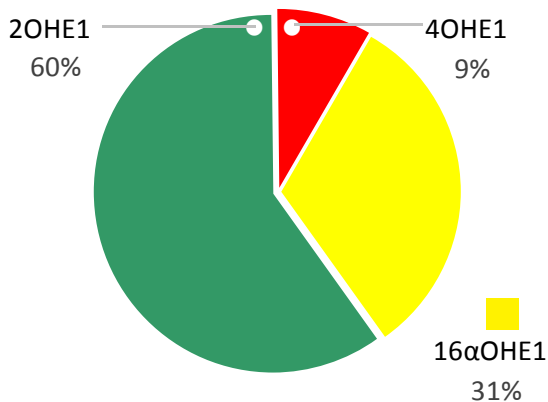
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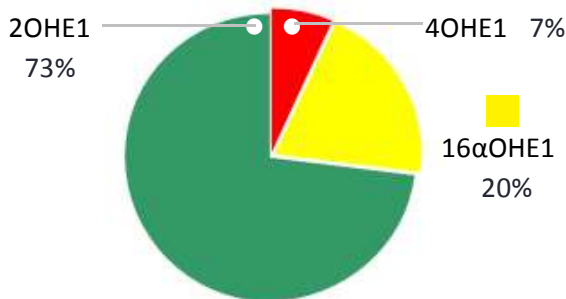
Patients with an EQ>1 have a higher survival rate after breast cancer and may be at decreased risk for developing breast cancer. EQ often declines as women enter menopause. Estriol is a less potent estrogen and is considered protective. Estradiol and Estrone are more potent for managing symptoms but have potentially carcinogenic metabolites. A healthy balance is desirable.

### Estrogen Hydroxylation

**Patient Result**



**Reference Range**



This graph looks at the relative proportions of the hydroxylated (Phase I) estrogens. A high proportion does not necessarily equate to a high value, nor a low proportion to a low value. 2OHE1 is considered protective, and a larger proportion of the whole is both normal and healthy. 16αOHE1 has a strong affinity to estrogen receptors and plays an important role in maintaining bone density. Neither very high nor very low values are desirable. As a proportion of hydroxylated estrogens, up to about 20% is normal. 4OHE1 is a highly carcinogenic metabolite, and low values are desirable. As a proportion of hydroxylated estrogens, 7% or less is normal.

Methylation Ratio: 0.16

2-Methoxyestrone/2OHE1

**Patient Result**



**Reference Range**

0.2 - 0.65



The methylation ratio allows some insight into methylation pathways and Phase I to Phase II metabolism. If the methylation ratio is on the low end of the reference range, supplements that provide methyl donors and increase methylation may be helpful. Genetic testing can give additional information about methylation pathways that may allow for more targeted supplementation.

## Progesterone

µg/24hr

Reference Ranges

5β-Pregnanediol (progesterone metabolite)

**16044**

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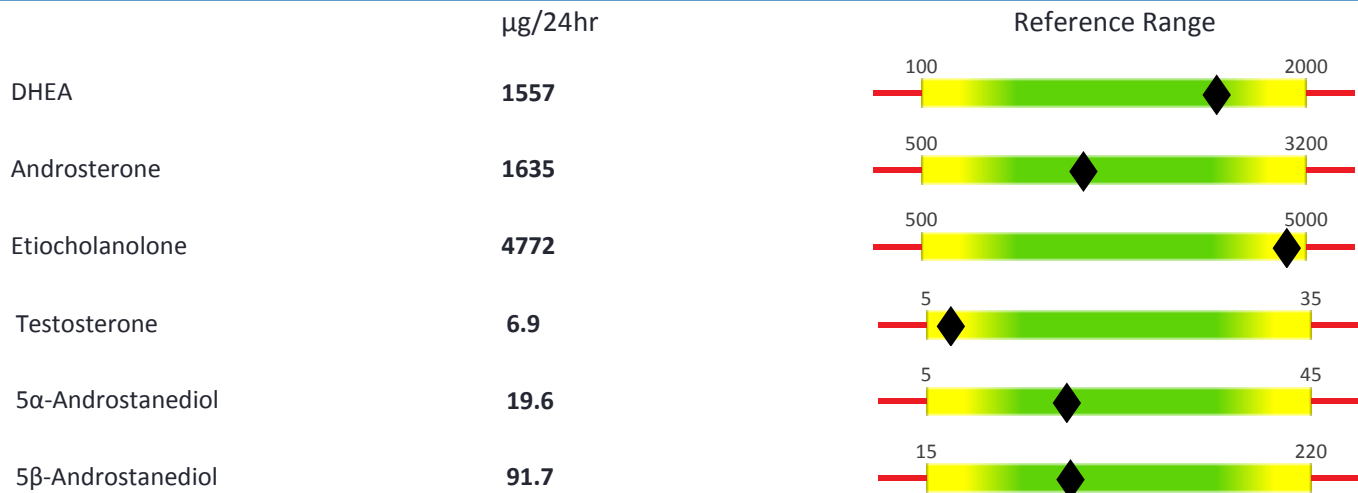
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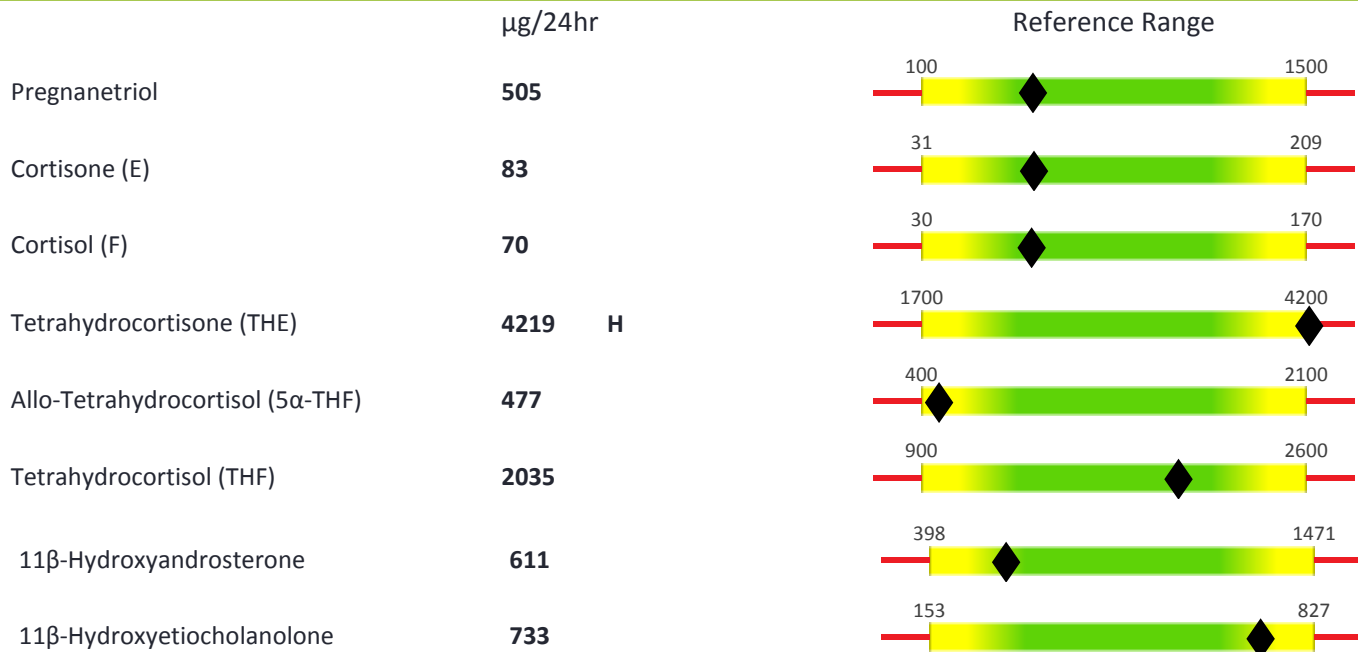
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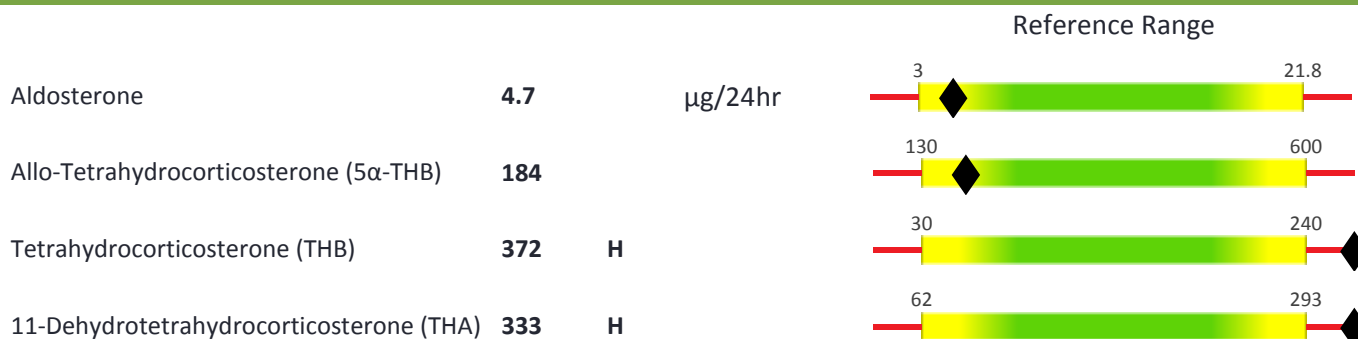
## Androgens



## Glucocorticoids



## Mineralcorticoids



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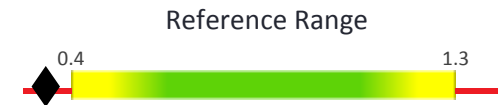
Patient Name:

## Enzyme Activity Phenotype Assessment

### 5 $\alpha$ -Reductase

*Andro/Etio Ratio*

**0.34** L



*5 $\alpha$ -THF/THF Ratio*

**0.23** L



Elevated 5 $\alpha$ -reductase activity is associated with Polycystic Ovarian Syndrome (PCOS) and hirsutism in women, Benign Prostatic Hyperplasia (BPH) and premature baldness in men, and obesity and insulin resistance in both genders. Low 5 $\alpha$ -reductase activity may result in reduced conversion of testosterone to DHT and undervirilization in males.

### 11 $\beta$ -HSD II (11 $\beta$ -hydroxysteroid dehydrogenase II)

*Cortisol/Cortisone Ratio (11 $\beta$ -HSD II)* **0.84**



11 $\beta$ -HSD II is predominantly a renal enzyme. It inactivates cortisol in order to prevent competitive binding to mineralocorticoid receptors. Its activity can be measured by the ratio of cortisol/cortisone. An elevated ratio (toward right on the graph) indicates suppressed enzyme activity, and may be clinically related to stress, hypertension, high dose licorice, cortisol administration, or insulin resistance.

## Other Analytes

### Thyroid

Free T3 **418** ng/24hr



Free T4 **583** ng/24hr



### Minerals

Sodium **65** mmol/24hr



Potassium **44** mmol/24hr



Sodium/Potassium Ratio **1.5**



### Organic Acids

Kynurenic **1.5** mg/24hr



Xanthurenic **0.53** mg/24hr

