



63 Zillicoa Street
Asheville, NC 28801
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Patient: **SAMPLE
PATIENT**

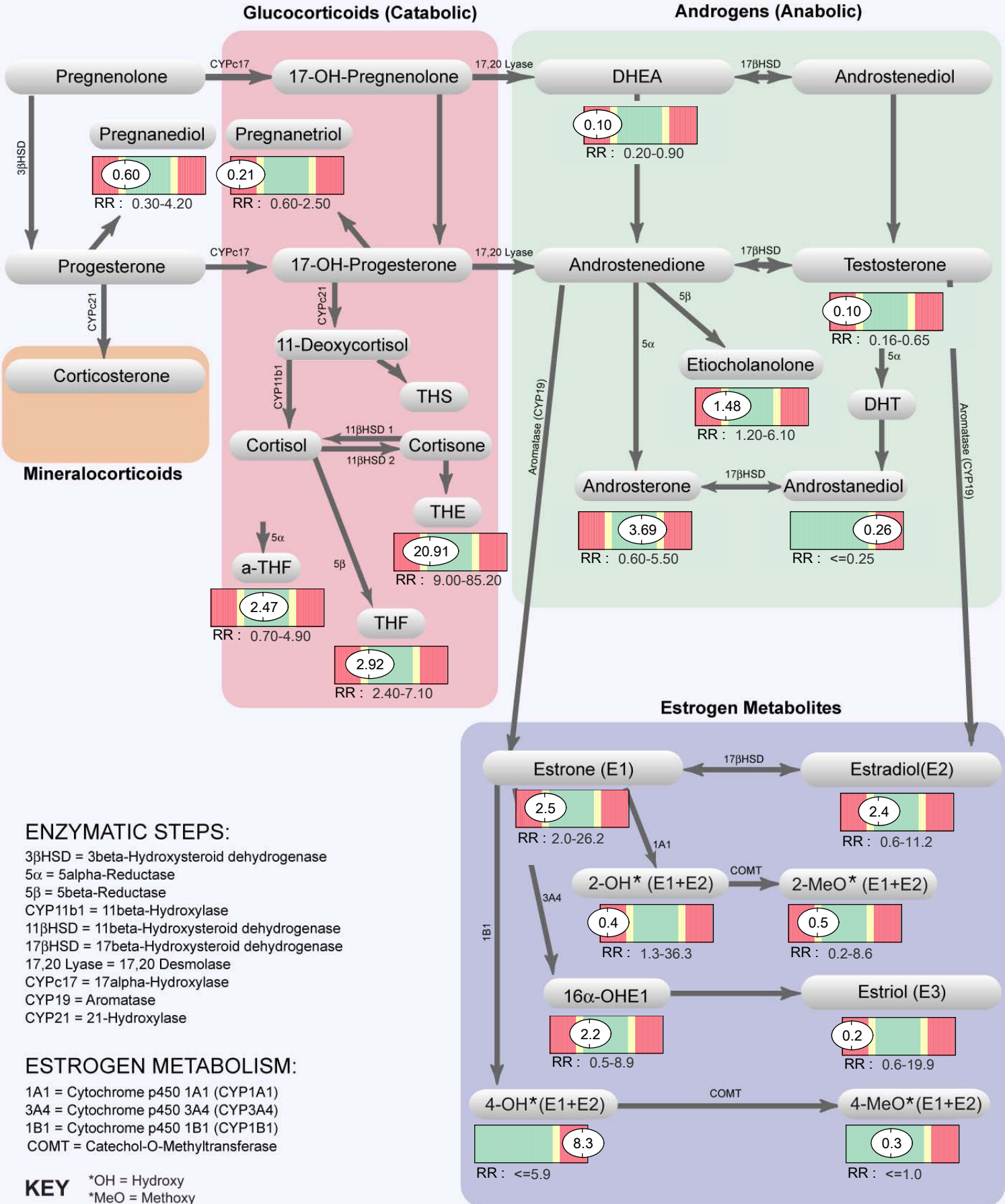
DOB:

Sex:

MRN:



Steroidogenic Pathway At-A-Glance



Interpretation At-A-Glance

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



Catabolic

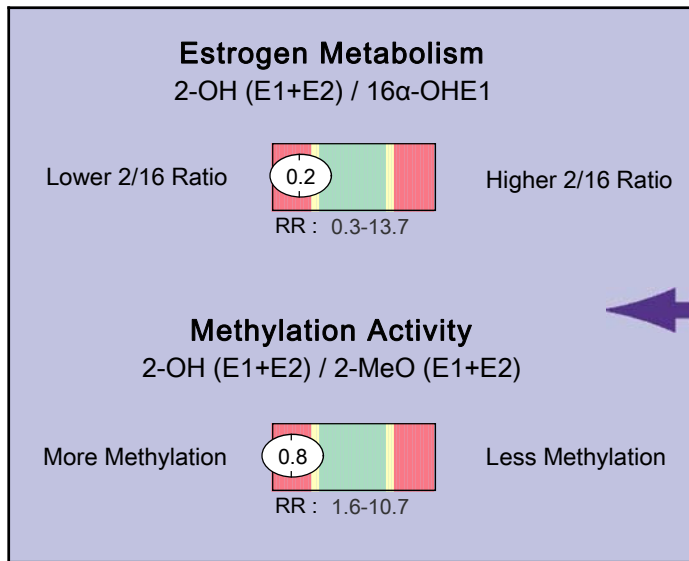


Anabolic



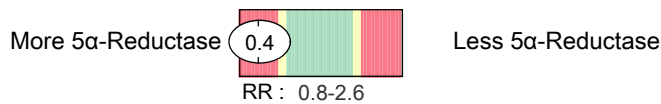
* Total values equal the sum of all measurable parts

Enzymatic Activity

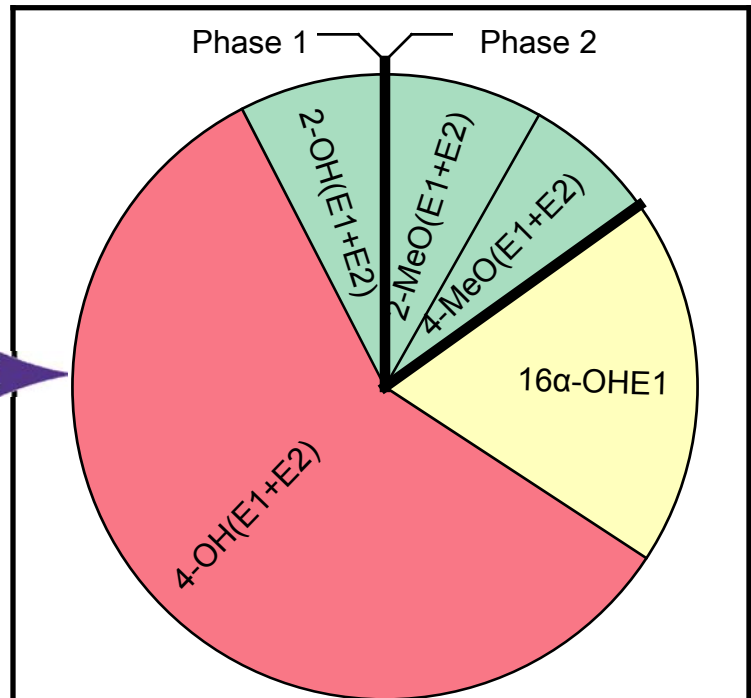


5 α -Reductase Activity

Etiocholanolone/Androsterone (E/A) Ratio

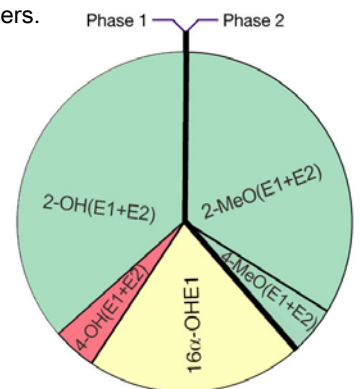


Estrogen Metabolism



This sample pie-chart reflects current scientific understanding of the association of specific estrogen metabolites with disease risk for hormone related cancers.

Metabolites in green have been associated in the literature with decreased risk; those in red, with increased risk. 16-OHE1 (in yellow) has mixed findings, some studies showing an association and many finding no association. The dark line separates Phase 1 and Phase 2 detoxification pathways.



Key

Complete Hormones (24hr)



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Patient: **SAMPLE
PATIENT**

DOB:

Sex:

MRN:

Methodology: GC-MS and LC-MS/MS; Specimen: 24 hour urine; Results normalized to volume

Progesterone

		Reference Range
Pregnanediol (24hr urine)	0.60	0.30-4.20 micromol/24 hr

Androgens

17-Ketosteroids

		Reference Range
DHEA (24hr urine)	0.10	0.20-0.90 micromol/24 hr
Androsterone (24hr urine)	3.69	0.60-5.50 micromol/24 hr
Etiocholanolone (24hr urine)	1.48	1.20-6.10 micromol/24 hr
11-Keto-androsterone (24hr urine)	0.20	0.30-1.90 micromol/24 hr
11-Keto-etiocholanolone (24hr urine)	0.34	0.30-1.60 micromol/24 hr
11-Hydroxy-androsterone (24hr urine)	3.17	1.30-4.10 micromol/24 hr
11-Hydroxy-etiocholanolone (24hr urine)	0.31	0.50-2.60 micromol/24 hr
17-Ketosteroids, Total* (24hr urine)	9.3	6.0-22.2 micromol/24 hr

* Total values equal the sum of all measurable parts

Testosterone (24hr urine)	0.10	0.16-0.65 micromol/24 hr
Androstanediol (24hr urine)	0.26	<= 0.25 micromol/24 hr

Glucocorticoids

17-Hydroxysteroids

		Reference Range
Pregnanetriol (24hr urine)	0.21	0.60-2.50 micromol/24 hr
allo-Tetrahydrocortisol, a-THF (24hr urine)	2.47	0.70-4.90 micromol/24 hr
Tetrahydrodeoxycortisol, THS (24hr urine)	0.17	<= 1.00 micromol/24 hr
Tetrahydrocortisone, THE (24hr urine)	20.91	9.00-85.20 micromol/24 hr
Tetrahydrocortisol, THF (24hr urine)	2.92	2.40-7.10 micromol/24 hr
17-Hydroxysteroids, Total* (24hr urine)	26.7	14.0-105.2 micromol/24 hr

* Total values equal the sum of all measurable parts

Estrogens

Estrogens

Reference Range

Estrone (E1)*	2.5	2.0-26.2 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	2.0-26.2 mcg/g Creat.
Menopause	1.1-26.2 mcg/g Creat.
Male	1.6-8.6 mcg/g Creat.

Estradiol (E2)*	2.4	0.6-11.2 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	0.6-11.2 mcg/g Creat.
Menopause	0.6-15.4 mcg/g Creat.
Male	0.8-4.3 mcg/g Creat.

Estriol (E3)*	0.2	0.6-19.9 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	0.6-19.9 mcg/g Creat.
Menopause	0.7-30.8 mcg/g Creat.
Male	0.3-5.1 mcg/g Creat.

Estrogen Metabolites

2-Hydroxyestrone + 2-Hydroxyestradiol [2-OH(E1+E2)]*	0.4	1.3-36.3 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	1.3-36.3 mcg/g Creat.
Menopause	0.9-43.8 mcg/g Creat.
Male	0.7-12.5 mcg/g Creat.

16 α -Hydroxyestrone (16 α -OH E1)*	2.2	0.5-8.9 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	0.5-8.9 mcg/g Creat.
Menopause	0.4-7.7 mcg/g Creat.
Male	<=2.0 mcg/g Creat.

4-Hydroxyestrone+4-Hydroxyestradiol [4-OH(E1+E2)]*	8.3	<= 5.9 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	<=5.9 mcg/g Creat.
Menopause	<=8.8 mcg/g Creat.
Male	<=1.6 mcg/g Creat.

2-Methoxyestrone+2-Methoxyestradiol [2MeO(E1+E2)]*	0.5	0.2-8.6 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	0.2-8.6 mcg/g Creat.
Menopause	0.3-5.9 mcg/g Creat.
Male	0.2-2.5 mcg/g Creat.

4-Methoxyestrone+4-Methoxyestradiol [4MeO(E1+E2)]*	0.3	<= 1.0 mcg/g Creat.
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	<=1.0 mcg/g Creat.
Menopause	<=1.0 mcg/g Creat.
Male	<=1.0 mcg/g Creat.

Estrogens

Ratios

Reference Range

Anabolic/Catabolic Balance (24hr urine)	0.3	0.1-1.5
E/A: 5β/5α Ratio (24hr urine)	0.4	0.8-2.6
2-OH(E1+E2) / 16α-OHE1*	0.2	0.3-13.7

* Premenopause(luteal) reference range shown

Reference Ranges	
Premenopause	0.3-13.7
Menopause	0.3-15.1
Male	0.8-12.9

2-OH(E1+E2) / 2-MeO(E1+E2)*	0.8	1.6-10.7
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* Premenopause (luteal) reference range shown

Reference Ranges	
Premenopause	1.6-10.7
Menopause	0.4-11.6
Male	1.0-8.8

Lab Comments

The performance characteristics of all assays have been verified by Genova Diagnostics, Inc. Unless otherwise noted with ♦, the assay has not been cleared by the U.S. Food and Drug Administration.

Please note the reference range for Tetrahydrocortisone (THE), Total 17-OH Corticosteroids, and the Anabolic/Catabolic Balance have been updated.

Please note analysis of estrogens and estrogen metabolites is now performed using LC/MS/MS. The reference ranges for these biomarkers have been updated.