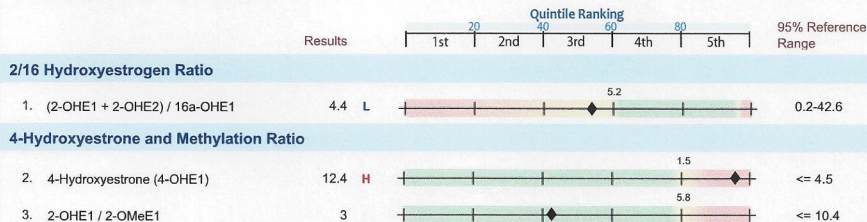


0142 Estronex™ 2/16 OH Ratio - Urine

Methodology: UPLC/MS/MS, Colorimetric Assay



	Results	95% Reference Limits			
	ng/mg Creatinine	Pre-Menopausal Females	Post-Menopausal Females (no hormone therapy)	Post-Menopausal Females (on hormone therapy)	Males
Hydroxyestrogens					
2-Hydroxyestrone (2-OHE1)	59.9	0.2-25.9	0.2-9.8	0.2-59.8	0.2-6.7
2-Hydroxyestradiol (2-OHE2)	17.6	0.1-11.3	0.1-9.7	0.1-19.9	0.1-13.5
2-OHE1 + 2-OHE2	77.5	0.4-32.0	0.2-14.6	0.5-76.3	0.2-15.6
4-Hydroxyestrone (4-OHE1)	12.4	<= 3.2	<= 2.1	<= 5.7	<= 0.8
16a-Hydroxyestrone (16a-OHE1)	17.7	0.2-14.2	0.1-3.2	0.1-37.6	0.1-3.3
Methoxyestrogens					
2-Methoxyestrone (2-OMeE1)	20.1	0.1-6.4	0.1-3.6	0.1-18.5	0.1-3.1
4-Methoxyestrone (4-OMeE1)	<0.23	<= 0.3	<= 0.4	<= 0.3	<= 0.2

Creatinine = 99 mg/dL

<DL = less than detection limit

*UC = Unable to calculate

3425 Corporate Way • Duluth GA 30096 USA
770.446.5483 • Fax: 770.441.2237
www.gdx.net/www.metamatrix.com

Ordering Physician:

~~Sundaram~~
~~Krishna~~
~~Pooja~~
~~Hemant~~
~~Kritika~~
CB

Accession #: A1304220279

Reference #:

Patient:

Date of Birth:

Age:

Sex:

Reprinted:

Comment:

Date Collected: 04/17/2013

Date Received: 04/22/2013

Date of Report: 04/24/2013

Telephone: 01547550331

Fax: 441548



0142 Estronex™ 2/16 OH Ratio - Urine

Methodology: UPLC/MS/MS. Colorimetric Assay

Test Explanation

The Estronex report is organized to help you find answers to the following clinically relevant questions:

1. **Is the 2/16 ratio low? If so, then...**
- There may be an increased risk for cancer in estrogen-sensitive tissue.
 - The 2/16 ratio may be increased by adding brassica vegetables or supplementing with I3C or DIM. Soy isoflavones, omega-3 fatty acids or flax seed (not oil) may also have favorable effects.
2. **Is the 4-hydroxyestrone level high? If so, then...**
- This is another result that may be associated with increased cancer risk.
 - Methylation factors may be evaluated (vitamin B12, folate, COMT SNPs, methyl donor supply).
3. **Is the 2-OHE1/2-OHE1f ratio high? If so, then...**
- Catecholestrone methylation status is poor.
 - The methylation ratio may be improved (lowered) by adding cofactors (vitamin B12 or folate) and methyl donors (such as betaine or DMG). Testing functional need for Vitamin B12 or folate is recommended.

The 2/16 Ratio Range

Numerous studies have established that the relative risk of cancer in estrogen-sensitive tissues is increased for individuals with 2/16 ratios less than 2.0 when hydroxysterogens are assayed by an immunoassay method(1). The UPLC/MS-MS analytical method now used at Metamatrix gives superior analytical results and allows additional metabolites to be determined(2). The 2/16 ratio cutoff value of 5.2 (5.6 for men) shown on this report is the point at which the percentage of low results is equivalent to that for the immunoassay method.

References

1. Sepkovic DW, Bradlow HL. Estrogen hydroxylation-the good and the bad. *Ann NY Acad Sci.* Feb 2009;1155:57-67.
2. Falk RT, Xu X, Keefer L, Vennstra TD, Ziegler RG. A liquid chromatography-mass spectrometry method for the simultaneous measurement of 15 urinary estrogens and estrogen metabolites: assay reproducibility and interindividual variability. *Cancer Epidemiol Biomarkers Prev.* Dec 2008; 17(12):3411-3418.