

Name: SAMPLE PATIENT
 Date Of Birth: XX/XX/XXXX
 Gender: M
 Lab ID: XXXXXX

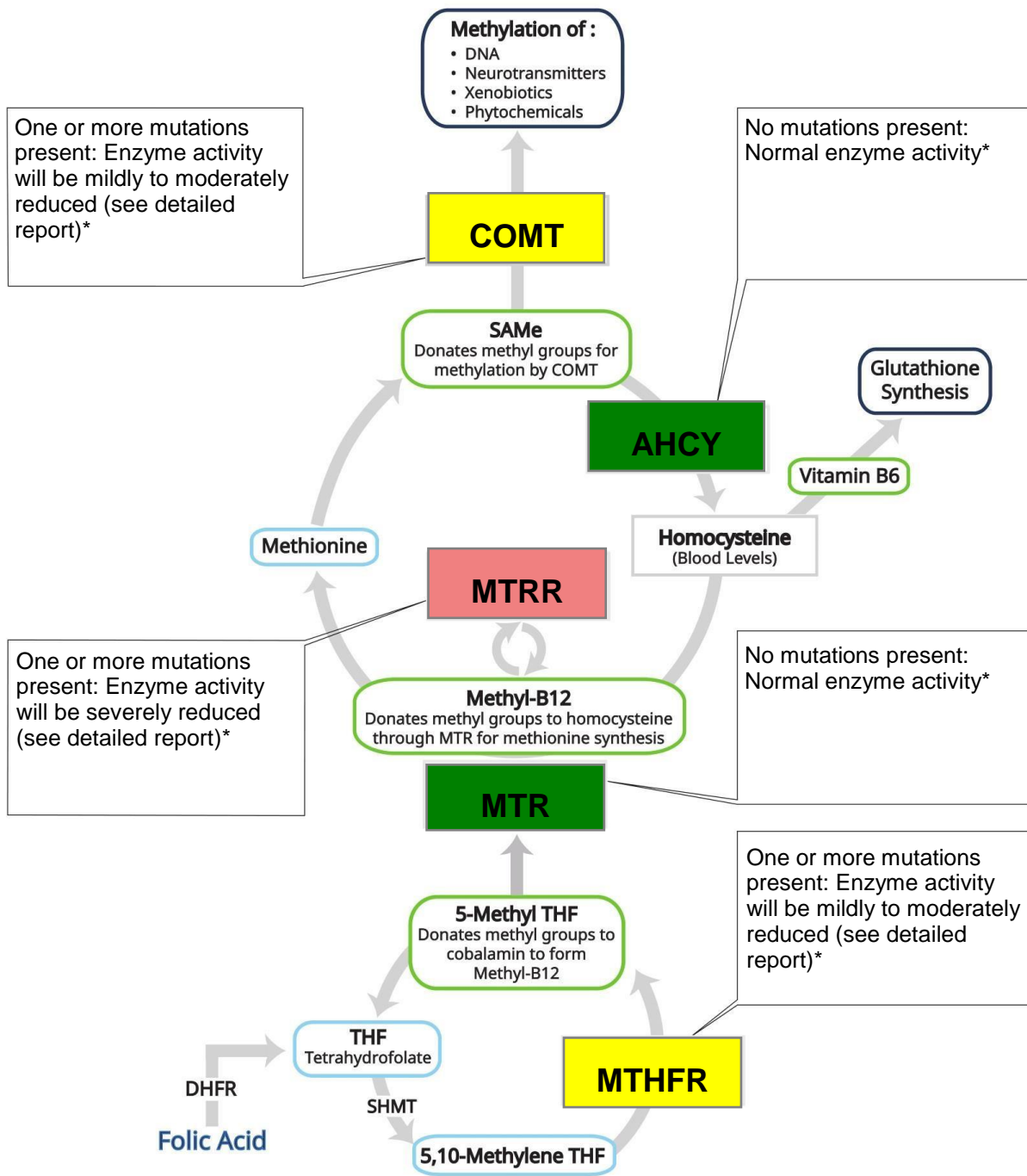
Patient Information
 Physician: SAMPLE PHYSICIAN
 Clinic ID: XXXXX
 Date Drawn: 02/01/2016
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Methylation Detoxification Cycle:



* Note that mutations other than those tested may contribute to the decrease in the enzyme activity.

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Personalized Genomic Commentary:

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|----------------------------|----------------------------|---|
| <p>MTHFR C677T</p> | <p>Heterozygous</p> | <p>A gene inherited from one parent has a mutation while the other gene is normal. Enzyme activity tends to be mildly to moderately reduced regarding the investigated mutation site.</p> |
| <p>MTHFR A1298C</p> | <p>Homozygous Negative</p> | <p>Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site.</p> |

Summary of results regarding the investigated mutation sites:

1. Enzyme effectiveness tends to be mildly to moderately reduced (see page 4 for genomic recommendations) 2
 Mild tendency towards elevated homocysteine levels.

Important:

1. If individual is being treated with antifolates and homocysteine levels are elevated, supporting literature strongly suggests supplementation with 5-MTHF.
 Examples of antifolates include:
 Methotrexate (Rheumatrex, Trexall), Pyrimethanine (Daraprim) , Premetrezed (Alimta), Trimethoprim, Proguani.

| | | |
|-------------------------------------|----------------------------|--|
| <p>AHCY g.G32878481C</p> | <p>Homozygous Negative</p> | <p>Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site.</p> |
|-------------------------------------|----------------------------|--|

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|---------------------------------|---------------------|---|
| AHCY C112T (Arg10Trp) | Homozygous Negative | Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site. |
|---------------------------------|---------------------|---|

2. Use caution with individuals previously diagnosed with serotonin syndrome.

| | | |
|-----------------------------------|---------------------|---|
| MTR C3518T (Pro1173Leu) | Homozygous Negative | Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site. |
| MTR A2756G (Asp856Gly) | Homozygous Negative | Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site. |

Summary of results regarding the investigated mutation sites:

- Enzyme effectiveness tends to be normal.
- No tendency towards elevated homocysteine levels due to the investigated mutation site.

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| MTRR A66G (Ile49Met) | Homozygous Positive | Genes inherited from both mother and father have mutations. Enzyme activity tends to be reduced regarding the investigated mutation site. |
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Summary of results regarding the investigated mutation sites:

- Enzyme effectiveness tends to be significantly reduced (see page 4 for genomic recommendations)

Important:

1. In combination with the C677T polymorphism in MTHFR, MTRR genotypes AG (heterozygous) and GG (homozygous positive) influence total plasma homocysteine levels. Additionally, the combination of the genetic polymorphisms in MTRR and MTHFR is linked to an increase in DNA damage as measured by micronucleus frequency (MN). Use caution with individuals previously diagnosed with serotonin syndrome.

Personalized Genomic Commentary:

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|---------------------------------|---------------------|---|
| AHCY G367A (Gly95Arg) | Homozygous Negative | Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site. |
|---------------------------------|---------------------|---|

Summary of results regarding the investigated mutation sites:

- Enzyme effectiveness tends to be normal.

Important:

1. Relevant mutations are associated with decreased enzyme presence and/or impaired function leading to elevated AdoHcy (s-adenosylhomocysteine) concentrations which may impair methylation potential. Studies show that association between mutations resulting in poor methylation potential may lead to severe myopathies, developmental delays, and hypermethionemia.

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|--------------------------------------|---------------------|--|
| COMT G472A (Val108/158Met) | Heterozygous | A gene inherited from one parent has a mutation while the other gene is normal. Enzyme activity tends to be mildly to moderately reduced regarding the investigated mutation site. |
| COMT G304A (Ala52/102Thr) | Homozygous Negative | Genes inherited from both parents have no mutations. Enzyme activity tends to be normal regarding the investigated mutation site. |

Summary of results regarding the investigated mutation sites:

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1. Enzyme effectiveness tends to be mildly to moderately reduced (see page 4 for genomic recommendations)
2. Degradation of the following substances by methylation tends to be mildly to moderately reduced:

‡ catechol estrogens ‡ catechol xenobiotics ‡ catechol estrogens ‡ nucleotides ‡
 catechol amines (neurotransmitters) ‡ nucleotides

Important:

1. Physician should be aware of this genetic test result should the patient be taking COMT inhibitors such as:

‡ entacapone (Comtan) ‡ tolcapone (Tasmar) ‡ nitecapone

2. Consumption of COMT inhibitors like tea catechins (green and black tea) and quercetin should be limited in the case of reduced COMT enzyme activity. Both are natural inhibitors of COMT, which can result in further inhibition of COMT activity. Quercetin is found in the following fruits and vegetables:

‡ capers ‡ radish leaves ‡ dill ‡ fennel leaves
 ‡ radicchio ‡ buckwheat ‡ chokeberry ‡ lingonberry cow peas
 blueberry dock like
 ‡ broccoli ‡ sorrel watercress ‡ rowanberry carob fiber ‡ prickly pear cactus fruits cilantro kale
 ‡ red onion ‡ sea buckthorn ‡ cranberry ‡ crowsberry
 ‡ black plum ‡ berry bilberry ‡ sweet potato ‡
 ‡ apples ‡ ‡ ‡
 ‡ ‡ ‡

3. Caution: Review past medical history for prior evidence of serotonin syndrome or use of anti-Parkinson's medication before supplementing S-Adenosylmethionine (SAmE).

Genomic Recommendations:

| Gene | Recommendation | Dosage, |
|------|------------------------------|---|
| COMT | SAmE (s-Adenosyl Methionine) | Oral dosage: 200mg ±600mg (No known side effects) |

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|-------|---|---|
| MTHFR | 5-MTHF [(6s) 5-methyltetrahydrofolate] | Oral dosage: 0.1mg ±1.0mg (see product recommendations) |
| MTRR | SAmE (s-Adenosyl Methionine) | Oral dosage: 200mg ±600mg (No known side effects) |

, Recommended daily allowances

Additional Information:

If homocysteine levels are still elevated after targeted supplementation, additional vitamin B6, L-cysteine, L-glycine and L- glutamic acid are recommended.

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