Prepared For: RandomFemale

What you're about to uncover in these upcoming pages is extremely powerful!

You finally have the opportunity to 'peek under the hood' and see You.

By discovering your unique genetic makeup using StrateGene®, you'll learn how you can truly optimize your life.

There is no such thing as a "bad" report, or a "good" report—just unique. You won’t find any 'red' or 'yellow' colors here that symbolize ‘bad’ or ‘warning’. Instead, you’ll learn that some of your genes naturally work slower and some naturally work faster. It’s important that you know this information so you can adapt. If you don’t know how your genes are built, you’ve no idea how your choices impact you.

You can change the way your genes function by changing your environment, mindset, food, and lifestyle. Your StrateGene® Report helps you make targeted choice after targeted choice which creates the optimal environment for your genes—one choice at a time. The result? You’ll ultimately function at your best—and you’ll know why.

Your journey to the best version of You is about to begin!

Here is where you start: *How to Understand Your StrateGene® Report*

To get the most out of your report, we encourage you to have a health professional help you analyze your StrateGene® Report. They will help you implement specific recommendations. It will be more efficient, cost-saving, and rewarding.

**Important Disclaimer:**

Although this report may provide useful diagnostic information, StrateGene.Me. Dirty Genes LLC, and Seeking Health LLC do not make or suggest any specific diagnosis or therapeutic course of treatment or action. Any such diagnosis and/or treatment plan is strictly a matter between the patient and his or her qualified healthcare professional.

The StrateGeneV1 array is a single-nucleotide polymorphism (SNP)-based assay, used to detect variants for the generation of the StrateGene report. It demonstrates a 99.98% concordance internally and 99.67% concordance with previously validated SNP-based assay.

To best navigate this report, we highly recommend saving and reading it on Acrobat Reader (For PC users) or Preview (For Mac users).

Lab Work Completed Date: 09-10-19 UTC  
Specimen Collection Date: 06-22-20 UTC  
Kit Type / Kit ID: Swab Kit SH1601652441

Report Date: 10-02-20 15:29:10 UTC  
Report Version: StrateGene® Core v1.0 (23b.1)  
Report ID: RandomFemale1601652441

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The Super Seven | Histamine | Dopamine | Serotonin | Folate | SAM | Methylation | Glutathione | Biopterin | Advanced Tables | Glossary | Education  
Dirty Genes | Seeking Health
The Super Seven (from Dirty Genes)

Symbols and Colors

<table>
<thead>
<tr>
<th>Gene/Enzyme</th>
<th>Cofactor</th>
<th>Increases Activity</th>
<th>Decreases Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checked</td>
<td>Slow</td>
<td>Intermediate</td>
<td>Fast</td>
</tr>
<tr>
<td>Checked, nothing found</td>
<td>Complicated</td>
<td>nothing found, info available</td>
<td></td>
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</tbody>
</table>

The Super Seven | Histamine | Dopamine | Serotonin | Folate | SAM | Methylation | Glutathione | Biopterin | Advanced Tables | Glossary | Education

Dirty Genes | Seeking Health
THE MTHFR GENE

The MTHFR (methylene tetrahydrofolate reductase) gene expresses an enzyme which produces the body’s primary form of folate called 5-MTHF (aka 5-methyl THF, L-5-MTHF, methylfolate), which represents over 80% of the body’s folate. In the process, the MTHFR enzyme uses FAD, a form of riboflavin (B2), as a cofactor.

5-MTHF is utilized in the production of S-adenosylmethionine (SAM), which subsequently regulates around 200 processes including DNA methylation, neurotransmitter and phospholipids production. Since the MTHFR gene is the rate-limiting step in the generation of 5-MTHF, it is subsequently also the rate-limiting enzyme in the whole process of SAM production.

The MTHFR gene connects the folate pathway, via 5-MTHF, with the SAM cycle via the MTR gene. This is why a slow MTHFR may increase homocysteine levels.

⚠️ Dirts your MTHFR gene

**Environment:** Avoid lead and arsenic. Living in sunny areas leads to increased folate demand to repair sun-damaged skin. Naturally dark skin can reduce demand, but not entirely.

**Lifestyle:** Hyper and hypothyroidism, insulin resistance

**Food:** Foods or beverages enriched with synthetic folic acid

**Supplements and Medications:** Avoid synthetic folic acid, aspirin, other salicylates (NSAIDs). Many medications interact with this enzyme. Consult your healthcare provider or pharmacist.

⚠️ Cleans your MTHFR gene

**Environment:** Protect skin from strongest sun rays of the day (10 a.m. to 4 p.m.) by using zinc oxide, hats and sun protective clothing.

**Food:** Choose riboflavin (B2) rich, choline and betaine rich, natural folate rich, polyphenol rich, low sugar. See "Your Clean Genes Recipes" in the Dirty Genes book.

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Notable variation:

**SNP: MTHFR C677T rs1801133 (+/-, GA) 📊**

This GA variant decreases binding of the cofactor, riboflavin (B2), which decreases MTHFR enzyme activity by about 30% less than wild type. The enzyme loses stability as body temperature rises, so its function becomes compromised during fevers. The activity and stability of the enzyme improves by consuming sufficient folate (B9) and riboflavin (B2).

**SNP: MTHFR A1298C rs1801131 (+/-, TG) 📊**

This TG variant reduces enzyme activity by approximately 20% less than wild type. The activity and stability of the enzyme improves by consuming sufficient folate (B9) and riboflavin (B2).

**An MTHFR C677T/ A1298C Haplotype 📊**

This haplotype combination causes approximately 50% reduction in MTHFR activity.

<table>
<thead>
<tr>
<th>Gene</th>
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<th>Alias</th>
<th>Variant Allele</th>
<th>Call</th>
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<tbody>
<tr>
<td>MTHFR</td>
<td>rs1801133</td>
<td>C677T</td>
<td>A</td>
<td>GA</td>
</tr>
<tr>
<td>MTHFR</td>
<td>rs1801131</td>
<td>A1298C</td>
<td>G</td>
<td>TG</td>
</tr>
</tbody>
</table>
Supplements and Medications: The MTHFR enzyme produces methylfolate (5-MTHF). Thus, supplementing with L-5-MTHF may be useful. Be careful, however, as this is a very powerful type of folate. Often it is over-prescribed and leads to many side effects. If using it, consider lower amounts such as 400 mcg to 1,000 mcg of L-5-MTHF.

A way to support MTHFR with fewer side effects is to optimize the cofactor riboflavin (B2), although sufficient B2 cannot help if one is folate deficient.

Another way to support this gene is by indirectly supporting methylation by using supplements which conserve SAM. The body’s production of both creatine and phosphatidylcholine use up nearly 80% of SAM; so by supplementing with them, one conserves SAM and generates less homocysteine. Choose non-GMO soy or sunflower derived phosphatidylcholine. Consider choline, betaine, omega-3: alpha-linolenic acid (ALA) and docosahexaenoic acid (DHA) fatty acids. Vitamin C showed ability to decrease hypermethylation of MTHFR in a positive way. Consider more folinic acid, L-5-MTHF or choline, whichever is well tolerated, during exposure to summer sun especially while pregnant or breastfeeding.
### Folate

<table>
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<td>?</td>
<td>A</td>
<td>C677T</td>
<td>+/-</td>
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<tr>
<td>MTHFR</td>
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<td>D</td>
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* An MTHFR C677T/ A1298C Haplotype Found ☆

-/- variant allele not present; +/- heterozygous genotype; +/- homozgyous genotype; +/-' hemizygous genotype (male X);
☆ = much slower; ★ = slower; ▲ = intermediate speed;
★ = faster; ★★ = much faster; ❮ = ambiguous; ❮ = unknown