

## **MTHFR Gene**

The *MTHFR* gene provides instructions for making an enzyme called methylenetetrahydrofolate reductase (MTHFR). This enzyme plays a role in processing amino acids which are the building blocks of proteins. MTHFR is important for a chemical reaction involving the vitamin folate (also called vitamin B9). There are two *MTHFR* gene variants, called C677T and A1298C, that have been actively studied.

Clinical studies have shown an association with the MTHFR gene variants and various diseases including:

- Cardiovascular diseases
- Neurodevelopmental diseases
- Cancers
- Psychiatric disorders - schizophrenia, bipolar disorder, depression, autism disorder and attention deficit hyperactivity disorder

## **MTHFR Supplementation**

Some people with MTHFR gene variants benefit from L-methylfolate (MTHFR) supplementation. If your provider has recommended that you start L-methylfolate, follow the instructions below.

### **1) Replace supplemented folate with dietary folate**

Supplemented folate can be found in vitamins, breads, flours, pastas, cereals. Dietary folate is found in various foods (including spinach, beans, lentils, asparagus, broccoli, avocado).

### **2) Start taking Vitamin B-12 in the form of methyl-B12 (cobalamin)**

Take 500 mcg by mouth daily in the morning (chewable or under your tongue is best for absorption). If you experience adverse side effects to methyl-B12, stop taking the methyl-B12 and contact your provider. Continue to take methyl-B12 while taking L-methylfolate.

### **3) Start L-methylfolate (5-MTHFR)**

The amount of L-methylfolate that each person needs will vary. Start low-dose L-methylfolate and increase the dose no higher than 15mg. Stop increasing the dose when you notice improvement of your symptoms, and keep in contact with your provider for recommendations to increase your dose of L-methylfolate. Below is a standard titration schedule used by this office, and it will be individualized to your diagnosis and needs. Contact your provider with questions.

Week 1 – Start 500 mcg (0.5 mg) by mouth daily

Week 2 – increase dose to 1000 mcg (1 mg) by mouth daily

Week 3 – take 2000 mcg (2 mg) by mouth daily

Week 4 – take 4000 mcg (4 mg) by mouth daily

Week 5 – take 7.5 mg by mouth daily

Week 6 – take 10 mg by mouth daily

Week 7 – take 15 mg by mouth daily

## **Notes**

- At some point you may feel very fatigued. This effect should go away. If this occurs, do not continue to increase your dose until the symptoms go away.
- If you experience insomnia, worsening anxiety, or agitation, or any other side effects, contact your provider as this could be a serious side effect of the medication.
- You can purchase these supplements at Sprouts, Natural Grocer, Whole Foods, Amazon or online at [www.methylpro.com](http://www.methylpro.com) and other websites.