

What is MTHFR (methylenetetrahydrofolate reductase)?

MTHFR is an enzyme that changes folate (vitamin B9 from food) or folic acid (vitamin B9 from vitamin supplements) to an active form that your body can use.

Active forms of folate^{1,2} ...

- Are needed for normal brain function.
- Play an important role in mental and emotional health.
- Work with vitamin B12 to make red blood cells and help iron work in your body.
- Prevent birth defects.
- Help lower homocysteine levels in your body. High levels of homocysteine may raise your risk for heart disease and stroke.

What is the MTHFR gene?

The MTHFR gene gives your body instructions on how to make the MTHFR enzyme. If you carry an at-risk form of the MTHFR gene, your MTHFR enzyme system might not work as well as it should.

True Health Diagnostics tests for 2 different forms of the MTHFR gene:

C677T

A1298C

How common is it to have an at-risk form of MTHFR ?

About half of the population has an at-risk form of this gene.^{3,4}

Having an at-risk form of the MTHFR gene may increase your risk for:

- Heart disease⁵
- Type 2 diabetes⁵
- Neural tube defects, stillbirth, and miscarriage⁵
- Autism spectrum disorders⁶
- Depression⁵ and other mental health concerns
- High blood pressure⁷
- Cancer⁵

What should I do if I carry an at-risk form of the MTHFR gene?

Ask your doctor if special vitamin B12, vitamin B6, and folate supplements may be helpful for you. The active forms of those vitamins—methylfolate, methylcobalamin, and pyridoxal-5-phosphate—may help lower homocysteine levels in your body.

Try eating more foods that rich are in folate. These may include green leafy vegetables, asparagus, blueberries, and whole grains.

1. Micronutrient: Folate. Oregon State University. bit.ly/folate_OSU. Updated 2014. 2. Johnson LE. Folate. *Merck Manual: Professional Edition*. bit.ly/folate_Merck. Updated 2014. 3. Gueant-Rodriguez RM, et al. *Am J Clin Nutr*. 2006;83:701–7. 4. Abu-Amero KK, et al. *Arch Pathol Lab Med*. 2003;127:1349-52. 5. Trimmer EE. *Curr Pharm Des*. 2013; 19 (14):2574-93. 6. Pu D, et al. *Autism Res*. 2013; 6(5):384-92. 7. MTHFR. NIH. bit.ly/MTHFR_NIH. Updated 2016.

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