

## How to Start with MTHFR Products

### Step 1

- Provide all the cofactors that you need for the methylation cycle. Key nutrients required are:
  - ❖ B1
  - ❖ B2
  - ❖ B3
  - ❖ B5
  - ❖ B6
  
- ❖ **B1** – facilitates acetyl choline synthesis, co factor for nerve cell function, required for hydrochloric acid, cofactor for ALDH genes, red blood cells, converts pyruvate to acetyl Co A, regulates cell ion channels
  
- ❖ **B2** – riboflavin – FAD cofactor for MTHFR gene and essential for many of the methylation genes. Activates Vitamin B 6 and folate. Constituent of flavoproteins so important for Krebs cycle function. Coenzyme form FAD, FMN. FAD involved in most oxidase enzymes. Glutathione reductase.
  
- ❖ **B3-** nicotinamide – required for energy production, maintains the respiratory chain enzymes in the mitochondria, metabolism of fats, stimulates ATP energy production. Nicotinamide modulates IL-6, IL-8, TNFa. NAD cofactor for many genes in methylation cycle. Nicotinamide is a precursor to NAD. NADP cofactor for G6PD (PPP)
  
- ❖ **B5** – Calcium pantothenate – pantothenic acid. Involved in synthesis of acetylcholine, antibody production, cofactor for AANAT gene that converts serotonin to melatonin, constituent of coenzyme A, protein metabolism, biosynthesis of phospholipids.
  
- ❖ **B6** – Pyridoxal 5 Phosphate . Active form. Co factor for neurotransmitters, CBS pathway. SHMT gene. Co factor for over 100 enzyme catalyzed reactions in the body.
  
- ❖ **Biotin** – Cofactor for fatty acid synthesis, carboxylation reactions, pyruvate carboxylase

A [Starter B](#) is ideal to start with.

## Step 2: Pick your B12

Below are the different forms of B12.

### Vitamin B12 Forms

Methylcobalamin	Hydroxocobalamin	Adenosylcobalamin	Cyanocobalamin
<ul style="list-style-type: none"><li>Essential for folate metabolism and the formation of choline containing phospholipids. It protects against NMDA glutamate receptor activity, regulates circadian rhythms, improves concentration, alertness and sleep quality.</li></ul> <p>Ideal for SNP's</p> <ul style="list-style-type: none"><li>- MTR</li><li>- MTRR</li><li>- FUT2</li><li>- TCN2</li></ul>	<ul style="list-style-type: none"><li>A potent nitric oxide scavenger. It detoxifies cyanide – so it is really good for smokers, cytoprotective and helps to recycle methionine.</li></ul>	<ul style="list-style-type: none"><li>Required for the formation of succinyl CoA, which is involved in the formation of neural lipids. Cofactor for the methylmalonyl CoA mutase and methionine synthase enzymes. It is essential for energy metabolism, and required for normal myelin sheath production and nucleotide production. Deficiency gives rise to nerve and spinal cord degeneration.</li></ul> <p>Ideal for SNP's</p> <ul style="list-style-type: none"><li>- MMAB</li><li>- MUT</li></ul>	<ul style="list-style-type: none"><li>Synthetic form of Vitamin B12 of low biological activity, and has to be converted in the liver to a more active form. It contains cyanide and over time may have toxic effects.</li></ul>

It is essential to have B12 in place before you introduce any methyl's. This is because B12 helps to move the methylfolate into the methionine cycle. We will be talking about B12 soon so make sure you look for our resources on how to pick the best B12 for you.

[Hydroxocobalamin](#) – this is the precursor to the active B12's – methylcobalamin and adenosylcobalamin. People who have trouble with methyl's may do better on this form. That way your body will convert to both of the above pathways.

[Methylcobalamin](#) – this is your neurological B12. Important for brain function and neurological function. We will look at the SNP's best for this in our B12 segment.

[Adenosylcobalamin](#) is our mitochondrial B12 and important for our energy pathways.

**So we have our cofactors and then our B12 in place. You need to do this for at least 2 weeks before starting on any methyl folate**

However if you have any of the following conditions you may need to address these with your practitioner first:

1. Gut dysfunction
2. Sleep disturbances
3. Liver issues like sensitivity to sulphur foods and products, severe brain fog or headaches, migraines etc.

The reason that we want you to address this first is because if you stimulate the pathway with methyl folate and you are increasing CBS (Cystathione Beta Synthase) activity then your symptoms may get worse.

If you think you are ready to introduce methylfolate products then see how resource on what is the best methyl for you and what to do if you have a reaction.