CYTOPLAN

THE TECHNICAL INFORMATION SERIES

Methyl Factors

Formerly known as H Formula

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Methyl Factors

This formula has been designed to provide methyl donor nutrients to help those with elevated homocysteine and other conditions that occur as a result of impaired methylation.

What is methylation?

Methylation, the addition of a methyl group (CH_3) to a compound, is involved in almost every reaction in the body and occurs billions of times per second. The functions of methylation include:

- Switching genes on and off
- Synthesis and metabolism of neurotransmitters and hormones
- Development, growth and repair – including of RNA and DNA, myelin and cell structures
- Detoxification

When the methylation pathway performs well it produces various by-products, including biochemicals needed to perform other tasks. On the other hand, when the methylation pathway is not functioning well, there are two main consequences:

1. A wide range of key bodily functions will not be performed effectively; and

2. Increased inflammation which is a precursor to various conditions ranging from autism to Alzheimer's to cardiovascular disease.

Most of us appreciate the rapid difference a cup of real coffee can make to a waning attention span. This is because coffee has a large number of methyl groups.

Hypomethylation can result in inflammation and many symptoms such as pain, fatigue, muscle weakness, poor immunity, incontinence and many more.

Hypomethylation is implicated in many conditions including: ageing; allergies; Alzheimer's; anxiety; arthritis; autism; bowel dysfunction; cancer; CFS/FM; chronic bacterial and viral infections; depression; diabetes; heart disease; herpes; infertility; leaky gut syndrome; metal toxicity; mitochondrial disease; multiple sclerosis, neural tube defects; osteoporosis; sleep disorders; systemic lupus erythematosus (SLE); schizophrenia and thyroid dysfunction.

Many people today are not properly methylated. This can be due to poor dietary intake of methyl donor nutrients, excess stress which increases needs exponentially, genetic errors that impair normal methylation, or all of these!

There are a number of nutrients needed for methylation including the active form of folate – 5 methyltetrahydrofolate (5-MTHF) or L-methylfolate. Folic acid, which is used in many supplements, needs to be converted to the active form 5-MTHF before it can be used as a methyl donor. The folate pathway includes a number of steps, and genetic polymorphisms (mutations) can reduce the efficiency of this pathway. The final step uses the enzyme methylenetetrahydrofolate reductase (MTHFRe).

Genetic single nucleotide polymorphisms (SNPs) mean the MTHFR enzyme has reduced function in 48% of the population! Thus, carriers of an MTHFR SNP may not effectively convert folic acid to the active 5-methyltetrahydrofolate form.

Methyl Factors

- Methyl Factors has been developed to help support those who need extra methyl donor nutrients to facilitate proper methylation.

- It contains betaine as TMG (trimethylglycine, 500 mg), vitamin B6 (as pyridoxal-5-phosphate), folic acid (as L-methylfolate) and vitamin B12 (as methylcobalamin); all of these nutrients can donate methyl groups. It also contains cofactors riboflavin and zinc. All of these nutrients also support the nervous system and detoxification pathways in the body.

- Betaine as TMG, vitamin B6, vitamin B12 and methylfolate provide a full spectrum of methyl donor nutrients.

- Betaine as TMG is the best methyl donor. It is not the same as betaine HCl, which is not necessarily a methyl donor but is sometimes used erroneously for this purpose because both carry the name 'betaine', which can be confusing. Many diets are low in betaine from food sources. Sugar beet, spinach, eggs and prawns are rich in betaine.

- Folic acid as L-methylfolate as it is the most stable, safe and bio-effective supplemental form of folate and the most useful to people with impaired methylation.

- Active forms of B12 and B6. B12 as methylcobalamin. B6 in the form of pyridoxal-5-phosphate. Certain genetic polymorphisms result in a reduced effectiveness to convert inactive forms of these vitamins (e.g. B12 hydroxycobalamin and B6 pyridoxine) to active forms.

- Riboflavin (B2) is a co-factor for the MTHFR enzyme.

- Zinc has been added as this is a co-factor to one of the pathways that converts homocysteine to methionine.

- We recommend that Methyl Factors is taken alongside one of our regular multi-formulae.

- Suitable for vegetarians, vegans and for people with Candida and yeast sensitivities.

- Free from genetically modified substances.

Order code: 2212

Methyl Factors
1 tablet provides on average:

Active Nutrient	Strength	%NRV+
Trimethylglycine (TMG - Betaine)	500.0mg	*
Riboflavin(B2)	3.0mg	214
Vitamin B6 (as pyridoxal 5 phosphate)	15.0mg	1071
Folic Acid (as L-methylfolate)	800.0µg	400
Vitamin B12 (as methylcobalamin)	1000.0µg	40000
Zinc (as citrate)	5.0mg	50

+NRV = Nutrient Reference Value

*** Indicates no NRV**

Ingredients: Trimethylglycine (TMG, also known as Betaine), microcrystalline cellulose, dicalcium phosphate, vitamin B12 as methylcobalamin, vitamin B6 as pyridoxal-5-phosphate, vegetable stearic acid, zinc citrate, vegetable cellulose (tablet coating), silicon dioxide, riboflavin, folic acid as L-methylfolate.

Suggested Intake: 1 tablet daily with food, or take as directed by a practitioner.

Suitable for: Vegetarians, vegans and for people with Candida and yeast sensitivities.

Contraindications: None.

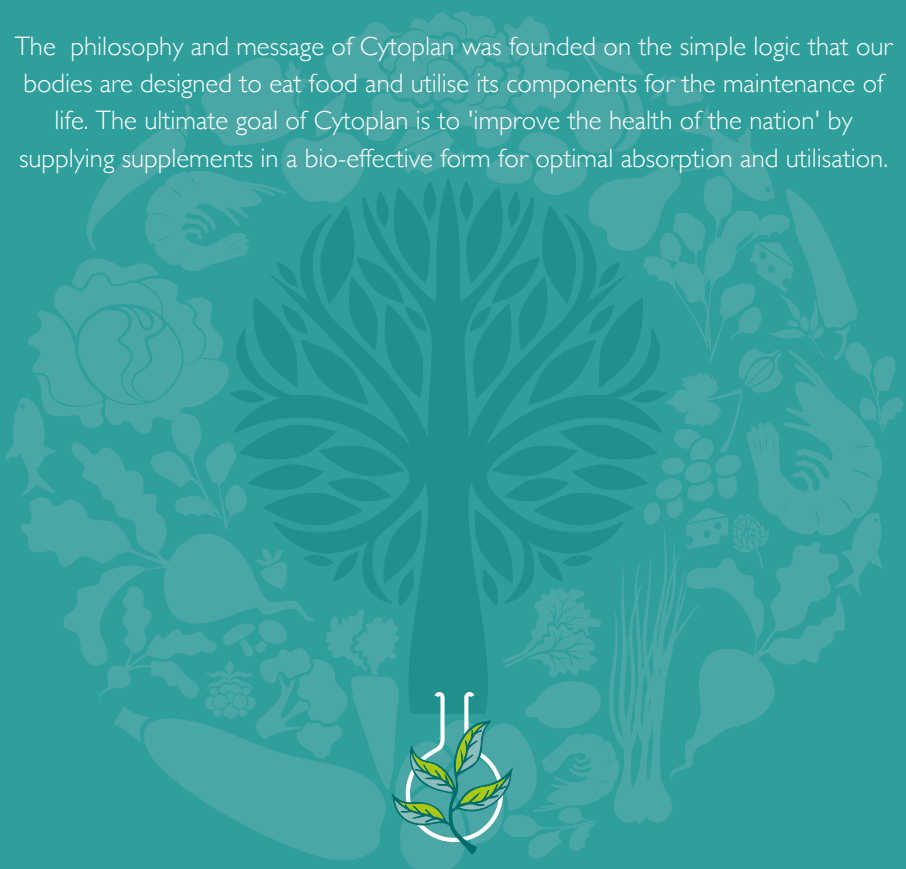
Non-Active Ingredients: Microcrystalline cellulose, dicalcium phosphate, vegetable stearic acid, vegetable cellulose (tablet coating), silicon dioxide.

Non GM & Free From:
Yeast, wheat, gluten, dairy, soy, added sugar, colourings, flavourings, preservatives.

Storage: Keep cool, dry & out of direct sunlight.

Cytoplan celebrates 25 years in the field of food-based supplementation and from the moment of conception to the present day we have promoted the philosophy that nutrients are best delivered to the body "in the same form as food".

The philosophy and message of Cytoplan was founded on the simple logic that our bodies are designed to eat food and utilise its components for the maintenance of life. The ultimate goal of Cytoplan is to 'improve the health of the nation' by supplying supplements in a bio-effective form for optimal absorption and utilisation.



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Science Based Supplements