

METHYLATION AND GENOMICS

PRODUCT SUPPORT BOOKLET

Based on the Treatment Strategies provided

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- Methylation & Genomics - Clinical Applications Seminar 2018



Contents

Core Products		Page
B Vitamins	<ul style="list-style-type: none">• Starter B• Total B Methyl• Total B Folinic• Prenatal Methyl	1 1 1 1
Vitamin B3	<ul style="list-style-type: none">• Niacin B3	2
Vitamin B6	<ul style="list-style-type: none">• Active B6	2
Vitamin B12	<ul style="list-style-type: none">• Adenosyl B12• Sublingual Hydroxy-B12• Methylcobalamin 1mg	2 3 3
Folate	<ul style="list-style-type: none">• Folinic Acid• L-5MTHF	3 4
Glutathione	<ul style="list-style-type: none">• Tri-Fortify Gel	4
L-Methionine	<ul style="list-style-type: none">• L-Methionine 500mg	4
Phosphatidyl Choline	<ul style="list-style-type: none">• ATP Fuel• Body Bio PC	5 5
Essential Fatty Acids	<ul style="list-style-type: none">• Body Bio Balance Oil	6
SAMe	<ul style="list-style-type: none">• SAMe 200mg	6

Additional Products		
Amino Acids	<ul style="list-style-type: none">• Amino-NR Formula	7
Digestive Enzymes	<ul style="list-style-type: none">• B.P.P.• Critical Digestion	7 7
L-Glutamine	<ul style="list-style-type: none">• L-Glutamine	8
NAC	<ul style="list-style-type: none">• NAC 900mg	8
Taurine	<ul style="list-style-type: none">• Taurine 500mg	9
Zinc	<ul style="list-style-type: none">• Double Strength Zinc Picolinate	9
	25mg	

Functional Testing		
Methylation Profile Plasma by Doctors Data		10
DNAHealth by DNALife		11

CORE PRODUCTS



MTHFRSUPPORT
Australia

Starter B*

– The first step in methylation support

- Provides initial B Vitamin support for people with the MTHFR gene mutation to assist key enzymes in the methylation cycle.
- This product does not contain B12 or folate, which allows supplementation with different forms of B12 and folate as indicated.
- B vitamins act as cofactors in the methylation cycle to support critical enzymes integral to the pathway.

Each capsule contains:

B5, Pantothenic acid (as Calcium pantothenate)	180 mg
B3, Niacin (Nicotinamide)	130 mg
B1, Thiamine (as Thiamine hydrochloride)	50 mg
B2, Riboflavin sodium phosphate (Riboflavin 5 phosphate)	25 mg
B6, Pyridoxine (as Pyridoxal 5 phosphate)	15 mg
Biotin	500 mcg

Suggested use: 1 capsule after breakfast. Begin with Starter B for 2 weeks before introducing B12. Then wait another 1 week before introducing folate.



MTHFRSUPPORT
Australia

Total B Methyl*

– Vitamin B support with methyl folate and methyl B12

- Supports critical enzymes in the methylation cycle.
- Contains the metafolin form of L-5MTHF for superior absorption and stability.
- May support and assist methylation reactions.
- Recommended to purchase Niacin B3 in conjunction with Total B-Methyl to ensure it is on hand in case of an adverse reaction to methyls.
- Vegan and vegetarian.

Each capsule contains:

B5, Pantothenic acid (as Calcium pantothenate)	180 mg
B3, Niacin (Nicotinamide)	130 mg
B1, Thiamine (as Thiamine hydrochloride)	50 mg
Biotin	500 mcg
B2, Riboflavin sodium phosphate (Riboflavin 5 phosphate)	25 mg
B6, Pyridoxine (as Pyridoxal 5 phosphate)	15 mg
Folate, (as Levomefolic acid/L-5-MTHF) [†]	400 mcg
Mecobalamin, Methyl B12 (Co-methylcobalamin)	400 mcg

Suggested use: 1 capsule after breakfast. Stop your Starter B once you introduce this multi. Continue with extra B12 if levels need supporting.



MTHFRSUPPORT
Australia

Total B Folinic* - NEW

– Vitamin B support with Folinic acid

- B complex which includes active forms of Vitamin B2, B6 and folate (as calcium folinate).
- Folinic acid is ideal for those who do not tolerate methyl folate.
- Folinic acid supports purine synthesis and is important for the regeneration of tetrahydrofolate and 5,10 Methylene THF, the precursor to methyl folate.
- Contains nutrients that contribute to the normal function of the nervous and immune system, and are involved in DNA synthesis.

Each capsule contains:

Calcium pantothenate	195.65 mg
Equiv. Pantothenic acid (B5)	180 mg
Nicotinamide (B3, Niacin)	130 mg
Thiamine hydrochloride	56.18 mg
Equiv. Thiamine (B1)	50 mg
Biotin	500 micrograms
Riboflavin sodium phosphate (B2, Sodium 5 phosphate)	25 mg
Pyridoxal 5-phosphate	21.89 mg
Equiv. pyridoxine (B6)	15 mg
Calcium Folate	513 micrograms
Equivalent to folinic acid	400 mcg
Hydroxocobalamin (B12)	400 micrograms

Other ingredients

Ascorbyl palmitate, Vegetable capsule (cellulose and water)

Suggested use: 1 capsule after breakfast.



MTHFRSUPPORT
Australia

Prenatal Methyl* - NEW

– Support for men and women

- A prenatal multi both men and women can use.
- Provides key nutrients involved in reproduction.
- Contains active forms of B12 and Folate (Levomefolic acid) which is ideal for those with already high folinic acid and low methylfolate.
- Does not contain iron or copper which allows for individual dosing.
- Suitable for vegetarians.

1 capsule/6 capsules daily contains:

	1 capsule	6 capsules		1 capsule	6 capsules
Beta-carotene	250 micrograms	1.5 mg	d-alpha tocopheryl acid succinate	28.69 mg	172.14 mg
Thiamine hydrochloride	9.36 mg	56.16 mg	Equiv. Vitamin E	33.33 IU	199.98 IU
Equiv. Thiamine (Vitamin B1)	7.36 mg	44.16 mg	Phylloquinone (Vitamin K)	10 micrograms	60 micrograms
Riboflavin sodium phosphate	5.29 mg	31.74 mg	Calcium citrate tetrahydrate	158.73 mg	952.38 mg
Equiv. Riboflavin (Vitamin B2)	4.17 mg	25.02 mg	Equiv. Calcium	33.5 mg	201 mg
Nicotinamide (Vitamin B3)	5 mg	30 mg	Chromium picolinate	59.5 micrograms	357 micrograms
Calcium pantothenate	21.74 mg	130.44 mg	Equiv. Chromium	7.4 micrograms	44.4 micrograms
Equiv. pantothenic acid (Vitamin B5)	19.91 mg	119.46 mg	Magnesium citrate	104.17 mg	625.02 mg
Pyridoxal 5-phosphate monohydrate	4 mg	24 mg	Equiv. magnesium	16.83 mg	100.98 mg
Equiv. pyridoxine (Vitamin B6)	2.55 mg	15.3 mg	Manganese (II) glycinate	3.07 mg	18.42 mg
Levomefolic acid	90.2 micrograms	541.2 micrograms	Equiv. Manganese	830 micrograms	4.98 mg
Equiv. levomefolic acid	83.3 micrograms	499.8 micrograms	Sodium molybdate dehydrate	32.9 micrograms	197.4 micrograms
Hydroxocobalamin (Vitamin B12)	41.7 micrograms	250.2 micrograms	Equiv. Molybdenum	13.06 micrograms	78.36 micrograms
Mecobalamin (co-methylcobalamin) (Vitamin B12)	41.7 micrograms	250.2 micrograms	Potassium iodide	43.6 micrograms	261.6 micrograms
Biotin	50 micrograms	300 micrograms	Equiv. Iodine	33.3 micrograms	199.8 micrograms
Choline bitartrate	33.33 mg	199.98 mg	Selenomethionine	62.1 micrograms	372.6 micrograms
Inositol	4.17 mg	25.02 mg	Equiv. Selenium	25 micrograms	150 micrograms
Ascorbic acid (Vitamin C)	33.33 mg	199.98 mg	Zinc citrate trihydrate	13.89 mg	83.34 mg
Ascorbyl Palmitate	15 mg	90 mg	Equiv. Zinc	4.3 mg	25.8 mg
Ascorbic acid (Vitamin C)	6.4 mg	38.4 mg	Alpha lipoic acid	5 mg	30 mg
Colecalciferol	4.16 micrograms	25 micrograms	Ubidecarenone (Coenzyme Q10)	16.67 mg	100.02 mg
Equiv. Vitamin D	166.4 IU	1000 IU			

Suggested use: 4 to 6 capsules per day. 6 capsules = 500mcg of methyl folate.



MTHFRSUPPORT
Australia

Niacin B3*

– *Niacin helps reduce methylation reactions and side effects*

- Nicotinamide is a form of Vitamin B3, which is involved in DNA replication and repair and steroid hormone synthesis.
- Provides an immediate antidote to methyl symptoms i.e. rash, mood decrease, elevated anxiety, headache, muscle aches and pain, brain fog, diarrhoea and palpitations.
- Purchase Niacin B3 when taking Total B-Methyl.
- Eases side effects within hours.
- Vegan and vegetarian.

Each tablet contains:

Amount Per Serving	DV*	%DV*
B3, Niacin (Nicotinamide)		
.....50mg	20mg	250%

Other ingredients: dicalcium phosphate, microcrystalline cellulose, magnesium stearate, croscarmellose sodium, silica

Free of: gluten, soy, corn, egg, dairy, GMO, fish, shellfish or nuts or prebiotics

Suggested use: 1 tablet every hour until you feel your symptoms improve, maybe required for up to 24 hours. Once your patient feels normal stop taking.



MTHFRSUPPORT
Australia

Adenosyl B12 - **NEW**

– *Supports mitochondria, methylation and myelin formation*

- An active form of B12, which is our mitochondria B12 and is essential to produce energy at the cellular level.
- Adenosylcobalamin assists in the conversion of methylmalonyl-CoA to succinyl-CoA a direct intermediate in the citric acid cycle/Krebs cycle (energy cycle that creates ATP and CoQ10.).
- High levels of methylmalonic acid (MMA) in the blood or urine point to an adenosylcobalamin deficiency. A deficiency may lead to fatty acid and myelin issues.

Each capsule contains:

adenosylcobalamin 500mcg

Other ingredients Ascorbyl palmitate, vegetable capsule (cellulose and water)

Suggested use: 1-2 capsules per day before breakfast

***Australian practitioners please refer to MTHFR Support directly to purchase these products**



researchnutrition



Active B6

– *Supports the methylation and transulfation pathways*

- Pyridoxal-5-Phosphate (P5P) is the metabolically active form of vitamin B6 found in the body, and is known to be necessary for the transformation and utilisation of amino acids for many functions in the body, including energy production and neurotransmitter synthesis.
- Required for the conversion of homocysteine to cysteine in the transulfation pathway and the conversion of folates in the methylation cycle.
- May assist in the maintenance of healthy nerve and brain function and is a vital component in the formation of the myelin sheath that surrounds nerve cells.
- Required in heme biosynthesis (Porphyrin pathway) and the formation of hemoglobin and Intrinsic Factor.

Each Capsule Contains:

Pyridoxal-5-Phosphate.....50 mg
Equivalent to Pyridoxine.....34.2 mg

Excipients: Microcrystalline Cellulose, Leucine, Silicon dioxide, Vegetarian Capsule.

FOR PRACTITIONER DISPENSING ONLY

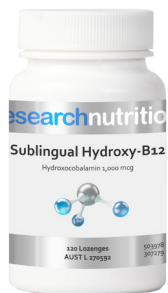
Directions for use: Adults take 1-2 capsules daily or as prescribed by your healthcare practitioner.

If symptoms persist consult your healthcare practitioner.

Vitamin supplements should not replace a balanced diet.

WARNING - this product contains pyridoxal-5-phosphate which may be dangerous when used in large amounts or for a long time.

Suggested use: 1-2 capsules daily



 researchnutrition

Australian
practitioners please
refer to Research
Nutrition directly to
purchase

Sublingual Hydroxy-B12

– *Readily absorbed, even when digestion is compromised*

- Hydroxycobalamin, delivered in a stable, great-tasting, and highly-absorbable lozenge.
- When taken at appropriate doses won't over-stimulate even the most sensitive patients.
- Converts to methyl B12 in the body, without introducing external methyl groups.
- Supports the methylation cycle without over-stimulation.
- Supports healthy homocysteine levels and cardiovascular function.
- Vitamin B12 is required for the synthesis of myelin.
- Supports normal stress and cognitive function through healthy neurotransmitter production.

Each Lozenge Contains:

Hydroxocobalamin.....1,000mcg

Excipients: Xylitol, Colloidal Anhydrous Silica.

Store below 25°C in a cool, dry, dark place.

Do not use if seal around cap is broken or missing.

Suggested use: 1 lozenge daily or as directed.



THORNE

Methylcobalamin 1mg

– *Active form of vitamin B12 that supports methylation*

- Methylcobalamin is a tissue-ready form of vitamin B12.
- B12 plays a role in the replication of the genetic code and is a growth factor in cells of the body.
- Methylcobalamin aids in the conversion of homocysteine to methionine.
- It supports cardiovascular function, normal sleep cycles, blood cell function, and nerve function.
- Methylcobalamin is essential for the body to recycle homocysteine and to form the internal methyl donors involved in cardiovascular function, sleep, red blood cell formation, and nerve function.

One Capsule Contains:

Vitamin B12 (as Methylcobalamin)1 mg

Other Ingredients: Microcrystalline Cellulose, Hypromellose (derived from cellulose) capsule, Leucine, Silicon Dioxide.

Suggested use: 1 capsule daily.



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practitioners please
refer to Research
Nutrition directly to
purchase

Folinic Acid

– *Folinic acid readily converts to methylfolate without delivering excess external methyl groups*

- A metabolically active, unmethylated and therefore less stimulating form of folate.
- Provides a gentle and invaluable basis to folate supplementation for a broad range of clinical applications.
- Plays an important role in supporting methylation reactions.
- Supports healthy cardiovascular function and improves vascular endothelial function.
- May support cognitive function through healthy neurotransmitter production.
- Folinic acid crosses the BBB more readily, making this more supportive for neurological conditions and healthy neurotransmitter production.

Each Vegetarian Capsule Contains:

Calcium Folate.....540 mcg
Equivalent to Folinic Acid.....500 mcg

Excipients: Tapioca Starch, Microcrystalline Cellulose, Leucine, Colloidal Anhydrous Silica.

Store below 25°C in a cool, dry, dark place.

Suggested use: 1 capsule daily.



researchnutrition



L-5MTHF

– A methylated and metabolically active form of folate

- Most bio-available form of folate, bypasses the biochemical steps normally required by other folates.
- Plays an important role in supporting healthy methylation.
- L-MTHF gets converted (with B12, as a courier) to methionine which then passes the methyl group to SAME.
- Directly facilitating methyl group donation in the body, L-5MTHF supports numerous metabolic processes for optimum healing, development, detoxification, mental health and wellbeing.
- Supports healthy homocysteine levels and vascular endothelial function.
- May support stress and cognitive function through healthy neurotransmitter production.

Each Vegetarian Capsule Contains:

Calcium L-5-methyltetrahydrofolate.....550 mcg
Equiv. Levomefolic acid (L-5MTHF)..... 500 mcg

Excipients: Leucine, Tapioca Starch, Microcrystalline Cellulose, Colloidal Anhydrous Silica.

Suggested use: 1 capsule daily.



Researched
Nutritionals®
solutions for life

Tri-Fortify Gel

– Major intracellular antioxidant essential for detoxification in the body, plus vitamin C, in an absorbable liposomal delivery system

- Enhances antioxidant action - glutathione is a tri-peptide composed of the three amino acids: L-glutamic acid, L-cysteine and L-glycine. It is known as the master antioxidant because it recycles other antioxidants, such as vitamins C and E.
- Promotes detoxification – supports the liver by removing chemicals that are foreign to the body such as drugs and pollutants.
- Supports the immune system – plays a critical role in the function of WBCs, many chronically ill patients have depleted levels of glutathione.
- The unique liposome structure allows it to combine effectively with the body's natural fluids and penetrate its protective membranes, bypassing the digestive system and directly entering the blood stream. By avoiding the process of digestion, nutrient absorption and utilization is much quicker and more complete.
- GMO Free and heat stable at room temperature.

Serving Size: 1 teaspoon (5 ml)
Servings per Container: Approx. 24

	Amount Per Serving	% Daily Value
Glutathione	450 mg	*

* Daily Value not established.

OTHER INGREDIENTS: Deionized Water, Glycerin, Phospholipids, PEG-40 Hydrogenated Castor Oil (emulsifier), Caprylic/Capric Triglycerides (to enhance absorption), Organic Cocos Nucifera (Coconut) Oil, Sodium Hydroxide, Lauric Arginate, Potassium Sorbate (as preservatives.)

Suggested use: 1 teaspoon daily, hold under tongue for 30-60 seconds and then swallow. Additional doses may be taken before other meals. Also available in convenient travel packs (individual serves). Tri-Fortify™ effectively encases the glutathione, producing a pleasant naturally flavoured gel that you squeeze onto a spoon and enjoy. No need to mix with juice or water.



METABOLIC
MAINTENANCE®

L-Methionine 500mg

– A sulfur containing essential amino acid

- Serves as an important antioxidant and detoxifying agent.
- Methionine is used as a precursor for SAM (S-adenosyl methionine) synthesis.
- Methionine uses methyl B12 to synthesize methionine from homocysteine.
- Aids in maintaining healthy skin tone, well-conditioned hair, and strong nails.
- Assists in the breakdown of fats.

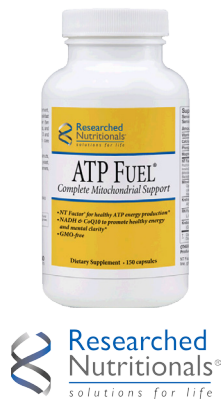
Serving Size: 1 capsule

	Amount Per Capsule	% Daily Value
L-Methionine	500 mg	*

* Daily Value not established for this ingredient

Other ingredients: vegetarian capsule

Suggested use: 1 capsule daily or as directed.



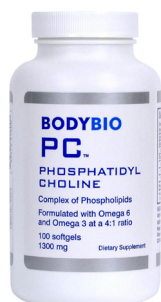
ATP Fuel

– Supports the Krebs Cycle of cellular energy production

- The Krebs Cycle takes place inside the mitochondria or “power plant” of the cell and it is the body’s primary energy producer.
- ATP Fuel® offers the top three energy nutrients and cofactors synergistically combined for maximum mitochondrial performance and energy production: NT Factor Energy™, NADH, and CoQ10.
- The other complexes within the ATP Fuel® combine to increase absorption.
- NT Factor Energy™ was developed as a phospholipid delivery system to repair mitochondrial membranes that have been compromised due to acute and/or long-term health challenges.
- Mitochondrial membranes contain their own DNA. If these membranes are damaged and not able to self-repair, they rely on healthy cells to donate their phospholipids. However, if there is a cascading impact of damaged cells splitting, the end result is a less than optimal energy level.
- This product goes well beyond the typical powder phospholipid product. Our formulators carefully selected the matrix of phospholipids required to promote healthy mitochondrial membrane function, employing a proprietary method to stabilize the lipids to maintain efficacy.
- GMO-free.

Amount Per Serving	% Daily Value**
Vitamin E (as d-alpha tocopheryl succinate, mixed tocopherol) 20 IU	67%
Calcium (from Mitochondrial Pro Regulator™ Blend) 137 mg	14%
Phosphorus (from Mitochondrial Pro Regulator™ Blend) 37 mg	4%
Magnesium (from Mitochondrial Pro Regulator™ Blend) 41 mg	10%
NT Factor® Maximum Potency: NT Factor Lipids® (Pat.No. 8,877,239) , Fructo-oligosaccharides, Rice Bran Extract, Opti MSM™, Bromelain, Sulfur, Pantethine, Inositol, L-Arginine, L-Glycine, Taurine, Alpha Lipoic Acid, Garlic, Spirulina, Beet Root Fiber, Bifidobacterium bifidum, Leeks Stem powder, Lactobacillus acidophilus, Blackstrap Molasses, Boron.	
Mitochondrial Pro Regulator™	432 mg †
Opti MSM®, Calcium (as calcium citrate, dicalcium phosphate, and calcium pyruvate), Phosphorus (as dicalcium phosphate), Magnesium (as magnesium malate)	
Krebs Cycle Glucose Absorb™	180mg †
Alpha ketoglutaric acid, L-Tyrosine	
RN Fatty Acid Metabolizer™	141mg †
L-Carnipure® L-Carnitine L-tartrate, Pantethine (a Coenzyme A Precursor)	
Krebs Energy Foundation™	35mg †
(Coenzyme Q10 and stabilized NaDH)	
† Daily Value not established. Daily Values are based on a 2,000 calorie per day diet.	
OTHER INGREDIENTS: Gelatin, calcium palmitate, rice flour. Product contains ingredients derived from soy.	

Suggested use: 5 capsules 30 minutes before breakfast and 5 capsules before lunch or dinner (10 capsules daily) for the first 2 months then reduce to 5 capsules before breakfast. Note: Researched Nutritionals recommended protocol is to allow time for cell membranes to be repaired, this equates to 2 bottles per month for 2 months then 1 bottle a month thereafter.



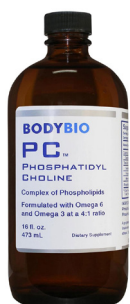
Body Bio PC

– Phosphatidyl Choline Complex of Omega 6 to Omega 3

- Pure phospholipids which automatically form liposomes in the watery environment of the body.
- High concentration of phospholipids but also maintains the EFA concentration at the preferred 4:1 ratio.
- Supports memory and mental clarity.
- Revitalise motor skills.
- Supports behaviour and focus.

Suggested Use:

Capsules: 2 softgels daily or as directed.
Liquid: 1 teaspoon daily or as directed.



BODYBIO

Serving Size: 2 softgels Servings: 50		
Amount Per Serving	% Daily Value*	
Calories 14.9		
Calories from Fat 14.2		
Total Fat	1.6 g	2.6%
Saturated Fat	0.3 g	1.5%
Polyunsaturated Fat	1.1 g	†
Monounsaturated Fat	0.16 g	†
Phospholipid Complex	1300 mg	†
* Daily Values are based on a 2000 calorie diet. † Daily Value not established.		
INGREDIENTS: Phosphatidylcholine, phosphatidylethanolamine, phosphatidylinositol, minor glycolipids. A proprietary blend of essential fatty acids linoleic and alpha linolenic, oleic acid, minor fatty acids and ethanol. DERIVED FROM SOY		

Serving Size: 1 teaspoon (5 ml) Servings per container: 94.6		
Amount Per Serving	% Daily Value*	
Calories 28.7		
Calories from Fat 27.2		
Total Fat	3 g	4.25%
Saturated Fat	.6 g	1.9%
Polyunsaturated Fat	2.1 g	†
Monounsaturated Fat	0.3 g	†
Phospholipid Complex	3,000 mg	†
* Daily Values are based on a 2000 calorie diet. † Daily Value not established.		
INGREDIENTS: Phosphatidyl-Choline, Phosphatidyl-Ethanolamine, Phosphatidyl-Inositol, minor glycolipids.		



Body Bio Balance Oil

– Essential fatty acids of Omega 6 to omega 3 at a 4:1 ratio

- 4:1 ratio of organic sunflower/safflower seed oil and flax seed oil blend in its virgin state.
- Rejuvenates the brain.
- Supports cellular balance.
- Revitalised mood and emotional wellbeing.

Suggested use:

Capsules - 5 capsules twice daily.

Liquid - Shake well. Take 1 to 2 tablespoons daily. Can be added to drinks and food dressings and in combination with protein foods.

Serving Size: 10 capsules

Servings: 18

Amount Per Serving	% Daily Value	
Calories 120		
Calories from Fat 120		
Total Fat	13 g	20%
Saturated Fat	1.5 g	7%
Trans Fat	0 g	*
Linoleic (omega-6)	8.3 g	*
Linolenic (omega-3)	2.1 g	*

* Daily Value not established.

INGREDIENTS: Organic unrefined sunflower or safflower seed oil, organic flax seed oil, gelatin, glycerin and water.

Serving size: 1 tablespoon

Serving per container: 33

Amount Per Serving	% Daily Value*	
Calories 120		
Calories from Fat 120		
Total Fat	14 g	21%
Saturated Fat	1.5 g	7%
Trans Fat	0 g	
Polyunsaturated Fat	10.5 g	
Monounsaturated Fat	2 g	
Cholesterol	0 g	0%
Sodium	0 g	0%
Total Carbohydrate	0 g	0%
Dietary Fiber	0 g	0%
Sugars	0 g	
Protein	0 g	

Not a significant source of dietary fiber, sugars, vitamin A, vitamin C, calcium and iron.

* Daily Values are based on a 2000 calorie diet.

INGREDIENTS: Organic unrefined sunflower or safflower seed oil, organic flax seed oil.



BODYBIO



METABOLIC
MAINTENANCE

SAMe 200mg

– Supports mood and brain function

- SAMe is involved in numerous biochemical reactions in tissues including the liver, joints and brain and is also required for the biosynthesis of critical neurotransmitters and hormones.
- SAMe is a primary methyl donor. It donates a methyl group (CH₃) to molecules such as DNA, proteins, phospholipids or neurotransmitters.
- SAMe is very unstable and is most commonly coated with known endocrine disruptors. Metabolic Maintenance has avoided this by combining SAMe with calcium and magnesium, making small batches and is shelf-stable at room temperature.
- Reduces oxidative stress and improves GSH levels.
- Supports healthy serotonin levels in the brain.
- Supports liver function and joint health.

Serving Size: 1 capsule

Amount Per Capsule	% Daily Value	
Calcium (as Calcium Citrate/Malate)	75 mg	8%
Magnesium (as Magnesium Citrate)	75 mg	19%
SAMe s-adenosyl-methionine-disulfate-tosylate	200 mg	*

* Daily Value not established for this ingredient

Other ingredients: Vegetarian cellulose and gellan gum capsule, L-leucine.

Suggested use: 1 to 2 capsules daily, between meals.

SUPPORTIVE PRODUCTS



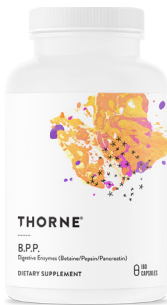
Amino-NR

– *Natural ratio amino acid complex*

- This formula is based on the ratios of amino acids found naturally in high biological value (BV) protein sources.
- Adequate protein and amino acids are vital for overall daily wellness, supporting healthy tissue and enzyme function.
- Amino acids play an important role in immune health, primarily attributed to support for healthy glutamine and glutathione levels.
- Supports recovery, protects DNA from oxidation, lessens occasional muscle soreness and fatigue, enhances muscle performance, and enhances the oxygen carrying capacity of the bloodstream.
- Alpha lipoic acid and alpha ketoglutarate provide additional support for mitochondrial function and energy.
- Vitamin B6 acts as a cofactor for healthy amino acid metabolism.

Serving Size: 3 Capsules	
Amount Per Serving	
Vitamin B6 (As Pyridoxal 5' Phosphate) (Activated B6))	
3.3mg	
Alpha Ketoglutarate	100mg
Alpha Lipoic Acid	50mg /
L-Histidine	77mg
L-Isoleucine	117mg
L-Leucine	207mg
L-Lysine HCl Monohydrate	225mg
L-Methionine	158mg
L-Phenylalanine	86mg
L-Threonine	104mg
L-Valine	113mg
L-Alanine	41mg
L-Arginine HCl	68mg
L-Glutamine	338mg
Glycine	68mg
L-Proline	135mg
L-Serine	68mg
L-Taurine	23mg
L-Tyrosine	36mg
L-Tryptophan	33mg

Suggested use: 3 to 6 capsules daily, in divided doses, between meals.



THORNE

B.P.P.

– *A comprehensive blend of enzymes that aids digestion*

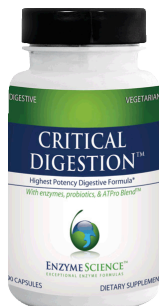
- One common reason for having long-term poor digestion can be insufficient secretion of hydrochloric acid and pancreatic enzymes due to factors such as aging, illness, and the overuse of antacids.
- B.P.P. provides the hydrochloric acid and pancreatic enzymes to those who have insufficient secretions which can result in indigestion.
- Thorne's B.P.P. offers pepsin that is undiluted and lactose-free and also provides undiluted pancreatin, which is essential to optimal digestion and the absorption of numerous nutrients, especially fats.
- Individuals who are likely to be low in hydrochloric acid and pancreatic enzyme secretion, and have malabsorption of protein, carbohydrates, and fats, should consider B.P.P.
- Thorne's lactose-free pancreatin has the highest potency and purity possible.

Two Capsules Contain:

Betaine Hydrochloride*	1.04 g.
Pancreatin (Porcine)**	200 mg.
Pepsin (Porcine)	40 mg.

Other Ingredients: Hypromellose (derived from cellulose) capsule, Leucine, Silicon Dioxide.

Suggested use: 1 to 2 capsules with each meal.



Critical Digestion

– *High potency digestive enzyme formula*

- Enzyme supplementation works with our digestion to lessen symptoms associated with impaired digestion.
- Contains patented Thera-blend™ enzymes: multiple strains of enzymes that work in various pH levels and demonstrate unmatched performance and speed in digestion of proteins, fats, fibers and carbohydrates in addition to promoting an optimally functional GI tract.
- Helps maintain a healthy intestinal microecology.
- Supports the natural immune response.
- Supports bowel regularity.
- Supports immune function.
- Provides four researched strains of beneficial bacteria, including the extensively studied HN019 strain of Bifidobacterium lactis.

Suggested use: 1 capsule per meal with the first bite of food. Dose can be increased if needing more support.

Serving Size: 1 Capsule	
Servings Per Container: 90	
Amount Per Serving	%DV
Amylase Thera-blend™	23,000 DU **
Protease Thera-blend™	75,000 HUT **
Glucoamylase	50 AGU **
DPP-IV	250 DPPU **
Alpha Galactosidase	500 GalU **
ATPro™ Blend	25 mg **
ATP	**
Magnesium Citrate	**
Alpha Lipoic Acid	**
CoQ10	**
Lipase Thera-blend™	4,000 FCCFIP **
Cellulase Thera-blend™	1,500 CU **
Lactase	900 ALU **
Beta Glucanase	25 BGU **
Xylanase	1,000 XU **
Maltase	200 DP ⁹ **
Invertase	535 SU **
Pectinase w/ Phytase	150 Endo-PGU **
Hemicellulase	50 HCU **
Probiotics Blend	1 Billion CFU **
** Daily Value not established	



THORNE

L-Glutamine

– *Helps with muscle cell repair post-exercise and promotes gastrointestinal and immune system health*

- L-glutamine is an amino acid that supports a healthy intestinal lining and immune function, supports wound healing, and assists in healing after injury or surgery and in muscle cell repair.
- Evidence suggests it helps restore plasma glutamine levels depleted after periods of physical stress, such as prolonged exhaustive exercise.
- L-glutamine is the most prevalent amino acid in the bloodstream. It is found in high concentration in the gastrointestinal tract, which is its greatest user.
- Various stress factors – such as trauma, infection, malnutrition, chemotherapy, injury, and high-level athletic training – can adversely affect absorption in the small intestine, leading to food allergies.
- In the gut, glutamine maintains healthy integrity of the intestinal tract and enhances the protective mucosal lining. This helps to ensure proper nutrient utilization and absorption while limiting the amount of toxins that pass through the intestinal barrier.
- L-Glutamine is available as a powder which facilitates supplementing higher amounts, mixes easily in warm or cold liquids or available in convenient capsules.

One Capsule Contains:

L-Glutamine500 mg.

Other Ingredients: Hypromellose (derived from cellulose) capsule, Silicon Dioxide.

One Scoop (5.7 g) Contains:

L-Glutamine5 g.

Other Ingredients: None

Suggested use:

Capsules: 1 capsule three times daily


Powder: 1 scoop in a glass of water 1 to 3 times daily



NAC 900mg

– *Supports cellular antioxidant defense system*

- N-Acetyl-L-Cysteine (NAC) provides cellular antioxidant and anti-inflammatory properties.
- Precursor to GSH which is the brain's principal antioxidant.
- Research shows NAC raised brain GSH and reverses models of GSH depletion.
- Modulates glutamate – reducing impulsivity, addiction and cravings.
- NAC is a free radical scavenger that supports glutathione levels in tissues and may protect tissues from peroxidation generated by heavy metals.
- Plays a role in heavy metal detoxification.
- Promotes healthy lung tissue.

each vegetarian capsule contains  00

n-acetyl-L-cysteine (free-form)900 mg
other ingredients: ascorbyl palmitate, vegetarian capsule (cellulose, water)

If pregnant, consult your physician before taking this or any other product.

1-2 capsules daily, between meals.

Suggested use: 1-2 capsules daily, between meals.



THORNE

Taurine 500mg

– An important amino acid for heart rhythm, liver, and vision support

- Taurine is an essential, sulfur-containing amino acid and the most abundant amino acid in the heart and is essential for healthy heart muscle function.
- Supplementation has shown to benefit the production of nitric oxide in the vascular endothelium, which is essential to optimal blood flow, maintaining already normal blood pressure, and overall cardiovascular function.
- Supports optimal liver and gallbladder function and healthy vision. Acts as an antioxidant by inhibiting LDL cholesterol oxidation.
- Taurine is combined with bile acids, which results in increased cholesterol solubility and excretion, thus helping to maintain healthy cholesterol levels.
- Taurine’s involvement in bile acid formation facilitates fat digestion, fluid regulation, detoxification of environmental toxins, regulation of cellular calcium, and regulation of nerve excitability.
- A taurine-deficient individual can be more susceptible to tissue damage from environmental pollutants such as aldehydes, chlorine, and amines.

Serving Size: One Capsule		
Servings Per Container: 90		
Each Capsule Contains:		% DV
Taurine	500 mg	*
*Daily Value (DV) not established.		
Other Ingredients: Hypromellose (derived from cellulose) capsule, Silicon Dioxide.		
Suggested Use: Take 1 capsule two to three times daily or as recommended by a health-care practitioner.		
If pregnant, consult your health-care practitioner before using this product.		

Suggested use: 1 capsule 2-3 times daily.



THORNE

Double Strength Zinc Picolinate 25mg

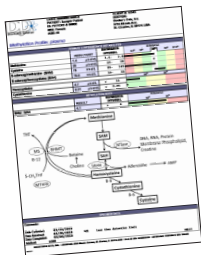
– Essential for growth and immune function

- Zinc is essential for growth, immune system function, testosterone metabolism, as a cofactor for the antioxidant enzyme superoxide dismutase, and for many other functions in the body.
- Zinc is involved in the functioning of over 200 enzymes and plays a key role in genetic expression, cell division, and growth.
- Zinc deficiency has been associated with adverse impacts on a number of structures and functions of the body.
- Promotes reproductive health.
- Picolinic acid facilitates the absorption of minerals, Zinc Picolinate is absorbed to a higher degree than other zinc supplements.

Serving Size: One Capsule		
Servings Per Container: 60 or 180		
Each Capsule Contains:		% DV
Zinc (as Zinc Picolinate)	25mg	200%
Daily Value (DV)		
Other Ingredients: Microcrystalline Cellulose, Hypromellose (derived from cellulose) capsule, Leucine, Silicon Dioxide.		

Suggested use: 1 capsule daily.

FUNCTIONAL TESTING



Methylation Profile – Plasma by Doctors Data Inc.

Doctor's Data Inc. (DDI) a premier clinical laboratory with over 30 years experience, provides specialty testing to healthcare practitioners around the world. The Methylation Profile provides an assessment of the expression of common SNPs (MTHFR) by evaluating the plasma levels of methionine, cysteine, SAMe, SAH, homocysteine and cystathionine, and provides the important "methylation index," a ratio of SAMe to SAH.

- Normal metabolism of methionine is critical for cellular methylation of DNA, proteins and neurotransmitters.
- Aberrant methionine metabolism can occur in anyone at any age and can be associated with numerous health consequences including cardiovascular disease and cancer.
- The profile may help indicate whether the patient is over or under methylating. If they are an over-methylator, certain supplements can help to decrease methylation and perhaps 'turn off reactions' that need to be off.
- A plasma methylation profile provides a functional assessment of the current phenotype expression (the result of SNPs in concert with the environment).
- Results can better determine appropriate nutritional and lifestyle support for normalising metabolism.

This Test May be Useful in...

- General Health and Longevity
- Genetic Disorders
- Autism
- Cancer Risk
- Cardiovascular Disease
- Detoxification Impairment
- Neuro-degenerative Diseases
- Nutritional Deficiencies
- Psychiatric Disorders
- Stress (Oxidation/Inflammation)
- Immune Dysfunction
- Down Syndrome

CLINICAL ASPECTS OF METHYLATION DYSFUNCTION

LIMITED OESTROGEN DETOXIFICATION

The 2-OH and 4-OH metabolites (catechol estrogens) are readily oxidized to quinones which, as you know, are highly reactive. 2,4-hydroxy estrones can be significant mechanisms of estrogen quinone cell damage. This harmful pathway can be minimised through detoxification and excretion of the catechol estrogens by methyl groups donated by S-adenosylmethionine (SAMe). The inability to efficiently detoxify these estrogen metabolites has been linked to an increased susceptibility to postmenopausal estrogen sensitive cancers and overall prostate cancer risk.

TOXIC ELEMENT EXPOSURE

Epigenetics is the study of heritable changes in gene expression that occur without changes in DNA sequence. Epigenetic mechanisms are flexible genomic parameters that can change genome function under environmental influence. Toxic element exposure may contribute to epigenetic mechanisms which are known to affect enzymatic action required for proper methionine synthesis.

NEUROTRANSMITTER IMBALANCE

Methylation defects are associated with altered neurotransmitter metabolism. SAMe is an essential cofactor both for synthesis and metabolism of neurotransmitters. Normal SAMe levels may also be required for the maintenance of myelin (the fatty layer of insulation that surrounds each nerve).

MITOCHONDRIAL DYSFUNCTION

Coenzyme Q10 (CoQ10) and carnitine are two cellular nutrients required in order to produce sufficient mitochondrial energy. CoQ10 is important for its role in ATP production in the mitochondrial respiratory chain while carnitine is involved in the transport of fatty acids into the mitochondrial matrix. Synthesis of both nutrients relies heavily upon the methyl donating capacity of SAMe. Compromised methionine metabolism may decrease levels of SAMe, thus resulting in impaired methylation and decreased cellular energy.

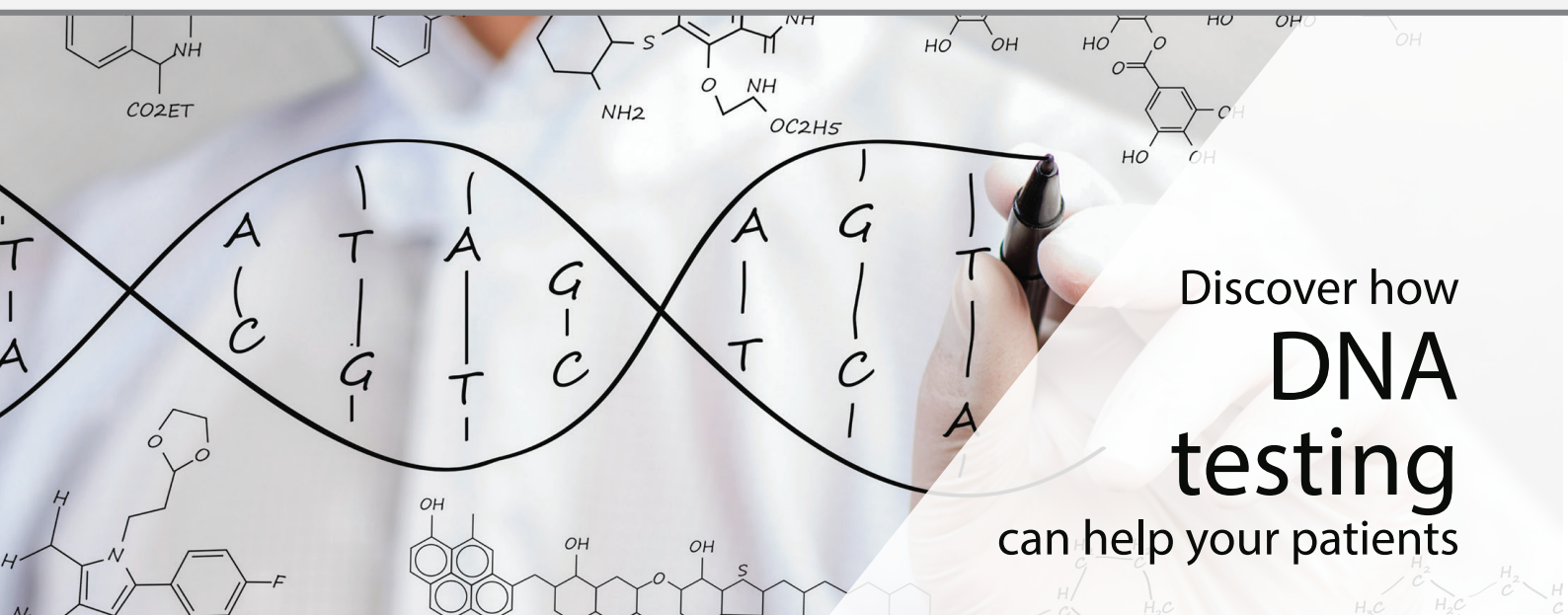
TYPE 2 DIABETES

A recent study showed that increased plasma concentrations of homocysteine and other methylation pathway intermediates are related to disturbed renal function in patients with type 2 diabetes. Additionally, patients with renal failure had a much lower methylation index SAMe/SAH ratio and elevated SAH.

CARDIOVASCULAR DISEASE

Plasma homocysteine and S-adenosylhomocysteine (SAH) are positively associated with occlusive artery and cardiovascular disease and homocysteine has been historically considered to be an independent risk factor for cardiovascular disease. SAH is the immediate precursor of homocysteine, and although present in blood at less than 1/500th the concentration of homocysteine, recent research has suggested that SAH may be an even stronger indicator of vascular disease.

IMPAIRED METHYLATION



Discover how **DNA** testing can help your patients

- Genetic testing and nutrigenomics provides the clinical foundations for truly personalised preventative and individualised healthcare.
- DNALife is comprised of a dedicated team of scientists with expertise in Human Genetics, Molecular Biology, Nutritional Genomics and Dietetics and leverages scientific advances in Human Genomics research for the benefit of the consumer, by providing access to affordable, quality genetic testing.
- By placing emphasis on the inter-relationship between genes, nutrition and lifestyle, genetic tests provide a valuable tool for the management of health and wellness.
- The use of cutting-edge molecular technologies provides high-quality testing, performed according to the highest international standards.

Four different tests now available



THE SCIENCE

Nutritional genomics has changed the landscape of weight and health management, providing personalised dietary recommendations based on an individual's unique genetic profile.

DNALife has developed a range of non-invasive DNA tests that identify specific genes linked to the achievement of optimum health, weight management, hormone metabolism and athletic performance. The tests provide the opportunity to personalise diet and exercise interventions, and select nutritional supplementation according to an individual's unique genetic profile.



THE RESEARCH

A rigorous selection process is utilised when selecting genes for the DNALife genetic tests, with only the most scientifically **validated** and **relevant** genes being considered, whereby only those with a lifestyle intervention proven to modify the effect of the gene's influence, ultimately being included.



dnahealth

DNA Health tests for genetic variations that are known to have a significant effect on health and susceptibility to chronic diseases. (e.g. Methylation, Detoxification, Oxidation etc.).



dnadiet

DNA Diet is amongst the most comprehensive and accurate weight-management and body composition related genetic tests available.



dnaoestrogen

DNA Oestrogen tests for various polymorphisms that have been shown to affect the metabolism of oestrogen and associated disease risks.



dnasport

DNA Sport provides insight into an individual's potential for sporting performance, optimal exercise/training selection, recovery strategies and injury risk.

DNAHealth by DNALife

DNA Health tests for genetic variations that are known to have a significant effect on health and susceptibility to chronic diseases. (e.g. Methylation, Detoxification, Oxidation etc.). DNA Health is concerned with optimising energy, wellbeing and health by making better lifestyle and diet choices, and using supplements tailored to offset any particular nutritional deficit or genetic shortcoming. The DNA Health approach establishes the optimal nutrition necessary for good health, energy, longevity and risk mitigation.

DNA Health tests for 27 genes involved in the following biological processes:

- Methylation
- Inflammation
- Oxidative Stress
- Lipid/Cholesterol metabolism
- Bone health
- Insulin sensitivity
- Food/Nutrient responses

Clinical Value

- Highlights specific metabolic pathways that may require extra support.
- Provides recommendations that involve optimisation of quantities of certain nutrients, vitamins and minerals.
- Suggests whether an individual is better able to reduce their cholesterol levels through diet, as opposed to through medication.
- Provides an indication of the degree of susceptibility to the harmful effects of carcinogens ingested in the diet.

Free electronic 68 page pdf DNA Life Interpretation of SNPs guide available on request.

Extracts from a sample report

Lipid metabolism
Heart health depends on a complex balance of environmental, dietary and genetic factors. Certain genes influence LDL and HDL cholesterol levels; higher levels of LDL, or 'bad' cholesterol, and lower levels of HDL, or 'good' cholesterol, are associated with a higher risk of heart disease.

Gene Name	Genetic Variation	Your Result	Gene Impact
LPL	1595 C>G	CC	+
CETP	279 G>A	AG	+
APOC3	3175 C>G	GC	+
APOE	E2/E3/E4	E3/E4	+++

LPL 1595 C>G
Lipoprotein lipase is anchored to the vascular endothelium and removes lipids from the circulation by hydrolysing triglycerides present in VLDL into free fatty acids. The 1595 C>G variant is a strong indicator of body fat, fat distribution, plasma lipids and insulin concentrations.

YOUR RESULT: CC
The analysis identified no genetic variation at the 1595 C>G locus.

CETP 279 G>A
Cholesterol ester transfer protein plays a key role in the metabolism of HDL, and mediates the exchange of lipids between lipoproteins, resulting in the eventual uptake of cholesterol by hepatocytes (reverse cholesterol transport). High plasma CETP concentration is associated with reduced HDL-C concentrations. CETP is a strong and independent risk factor for CAD.

YOUR RESULT: GA
The 279 A allele is associated with reduced plasma CETP levels, increased HDL-C levels and reduced risk of cardiovascular disease. An alpha-linolenic acid-enriched (ALA), low cholesterol diet is effective in decreasing VLDL-C and LDL-C levels in GA and AA individuals.

DNA Health Test Report Provides

- The level of impact of any genetic variants identified.
- An explanation of their impact on health.
- Appropriate nutritional and lifestyle recommendations.
- The results are divided in sections of key metabolic function, so that genetic weaknesses and strengths within a functional area can be easily identified.

Gene name and general function of the gene

Genetic variant of gene

LPL 1595 C>G
Lipoprotein lipase is anchored to the vascular endothelium and removes lipids from the circulation by hydrolysing triglycerides present in VLDL into free fatty acids. The 1595 C>G variant is a strong indicator of body fat, fat distribution, plasma lipids and insulin concentrations.

YOUR RESULT: CC
The analysis identified no genetic variation at the 1595 C>G locus.



Please call our Technical Support Team if you have further questions or email techsupport@fxmed.co.nz

Australian practitioners please refer to Research Nutrition for further information on Functional Testing or Research Nutrition products mentioned in this booklet.

Phone: 1800 110 158 or Email: support@researchnutrition.com.au

Australian practitioners please refer to MTHFR Support for further information on MTHFR products mentioned in this booklet.

Email: enquiries@mthfrsupport.com.au

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