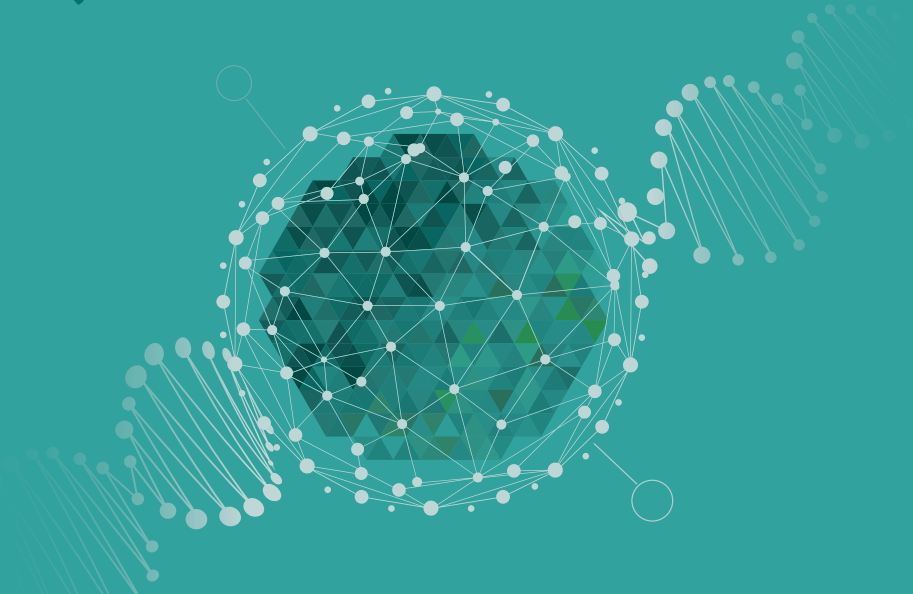
CYTOPLAN

NATURE MEETS SCIENCE



Nutrigenomics

Methylation, Associated Pathways and Nutrient Support

for professional use

26 YEARS AND COUNTING EST. 1990

Science Based Supplements for Health Professionals

CYTOPLAN

NATURE MEETS SCIENCE

Cytoplan celebrates 26 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.

SINCE 1990

KEY TO SYMBOLS

Vv = Suitable for Vegans

V = Suitable for Vegetarians

60 = Amount in container

FS = Food State™

W = Wholefood

T = Tablets

C = Capsules

P = Powder

L = Liquids

Nutrigenomics - Methylation, Associated Pathways and Nutrient Support

Single Nucleotide Polymorphisms

Subtle differences in our individual DNA, ie genetic variations or polymorphisms, can affect gene function and our predisposition to different health and disease conditions. A genetic variation is called a polymorphism when more than 1% of the population is known to have that same genetic change. Polymorphisms can be very common and some could be carried by up to 50% of the population – most are a result of a single nucleotide change and therefore referred to as Single Nucleotide Polymorphisms or SNPs (pronounced SNiPs).

Genes code for proteins (including enzymes) so mutations on genes (or SNPs) can result in altered protein function. For example increased or decreased function of an enzyme. Not all SNPs are clinically significant but some of those that are can be supported, bypassed or the effects modified with nutritional or lifestyle interventions. **This is not to say that we should be looking at a client's SNPs and basing recommendations purely on these – we still need to consider each individual's symptoms, medical history, family history, other SNPs and any other functional test results when deciding what recommendations to make.** Some SNPs may not need support – the person may be compensating for the SNP through other pathways. For some people it may be sufficient to make dietary improvements.

This leaflet is provided as an aide-memoire on which specific nutrients are relevant for bypassing or supporting particular genetic mutations (or SNPs). ***However, the information provided here is for information purposes only; it is not intended to diagnose or treat any medical condition. Nor is it intended to provide supplement protocols.*** *Supplements should not be recommended according to individual SNPs but based on a detailed client history, current presenting symptoms and health goals (and results of functional tests if appropriate). The information here has been compiled from a number of sources and is accurate to the best of our knowledge, but may not be comprehensive. New information is becoming available all the time and it is recommended you also use the resources included in the Bibliography section and PubMed.*

Table 1: Nutrients that bypass or support particular SNPs (see page 4 for full name and brief description of function of these genes)

Nutrient	May support or bypass following SNPs
Thiamin (B1)	ADH1B, ALDH2, ALD3A2, PDH, SUOX
Riboflavin (B2)	DAO, DMGDH, GSR, MAO, MTHFR, MTRR, NOS, PDH
Niacin (B3)	AHCY, ALDH2, ALDH3A2, COMT, DHFR, GAD, MAO, MTHFD1, MTRR, MTHFR, PDH
Pantothenic Acid (Vitamin B5)	AANAT, COMT
Pyridoxal-5-Phosphate (B6)	CBS, COMT, CSAD, CTH, DDC, DAO, GAD1, HDC, GST1, MAO, MTHFS, SHMT1
Adenosylcobalamin (B12)	MMAB, MUT
Hydroxycobalamin (B12)	ACAT1, COMT, FUT2, GAD, MAO, MTR, MTRR, SUOX, TCN2
Methylcobalamin (B12)	ACAT1, FUT2, MTR, MTRR
Methylfolate	GNMT, MTHFR, MTR
Vitamin C	DAO, DBH, GST1, MAO, MTHFR
Vitamin D3	VDR Taq
Magnesium	COMT, GSS, MAT1, MAT2, MTHFD2, MTHFS, MAO, NTSC, SOD
Zinc	ADA, ADH1B, BHMT, CBS, CDO, MTR, SOD

Nutrient	May support or bypass following SNPs
Iron	CAT, CDO, eNOS, IDO1, MPO, PAH, SHMT, TH, TPH, Haem – all the CYP450s
Copper	DBH, MPO, SOD
Selenium	GPX3, GST1
Manganese	SOD
Molybdenum	SUOX
DHA	BHMT, MTHFR
Phosphatidylcholine, lecithin	BHMT, PEMT
Choline bitartate	BHMT, PEMT
Curcumin	GST1 Supporting inflammation prior to methylation support
TMG	BHMT
Milk Thistle	GST1
Probiotics	FUT2

Key to Table 1

Genes code for proteins which function as structural proteins or enzymes. The list below gives the name of the genes shown in Table 1 and a brief description of the function of the protein (enzyme) that they code for.

AANAT – aralkylamine N-acetyltransferase - catalyses a step in the synthesis of melatonin from serotonin. Thus it is a key regulator in circadian rhythm.

ACAT1 – acetyl-coenzyme A acetyltransferase - catalyses the reversible formation of acetoacetyl-CoA from two molecules of acetyl-CoA. Contributes to cholesterol synthesis.

AHCY – s-adenosylhomocysteine hydrolase – enzyme in methylation cycle involved in conversion of methionine to homocysteine (and SAM generation).

ADA – adenosine deaminase - enzyme involved in purine metabolism, ie the breakdown of adenosine in food and purine salvage in cells. Important for immune function.

ADH1B – alcohol dehydrogenase – family of enzymes involved in the metabolism of alcohol and other substrates including retinol. Catalyses the first step breaking down ethanol to acetaldehyde.

ALDH2 – aldehyde dehydrogenase - involved in the metabolism of alcohol. Breaks down acetaldehyde to acetic acid. Numerous aldehyde dehydrogenase enzymes exist.

ALDH3A2 – aldehyde dehydrogenase - involved in metabolism of alcohol, specifically in the breakdown of aldehydes generated from alcohol metabolism and lipid peroxidation. It also has an important role in catecholamine metabolism.

BHMT – betaine homocysteine methyltransferase – converts homocysteine to methionine. Referred to as the 'short route' in the methylation cycle. Mainly in the liver and kidneys.

CBS – cystathionine-beta-synthase. First step in the trans-sulfuration pathway that converts homocysteine into glutathione. Other products from this pathway - taurine, ammonia, sulphites.

CDO – cysteine dioxygenase - initiates several important pathways related to pyruvate.

COMT – catechol-o-methyltransferase – breaks down neurotransmitters eg dopamine and other catechols eg food catechols and oestrogens.

CSAD – cysteine sulfinic acid decarboxylase - enzyme involved in the synthesis of taurine.

CTH – cystathionine gamma-lyase. Second enzyme step in trans-sulfuration pathway.

DAO – diamine oxidase - involved in the metabolism, oxidation, and inactivation of histamine within the digestive tract.

DBH – dopamine β-hydroxylase – involved in synthesis of nor-adrenaline from dopamine.

DDC – dopa decarboxylase – involved in the synthesis of dopamine from L-dopa and serotonin from 5-HTP.

DHFR – dihydrofolate reductase – involved in folic acid cycle, converts dihydrofolate into tetrahydrofolate.

DMGDH – dimethylglycine dehydrogenase mitochondrial – involved in the demethylation of dimethylglycine to sarcosine. Sarcosine shares properties with both glycine and serine.

FOLR – folate receptor family – genes within this family (eg FOLR1, FOLR2) code for proteins that bind to folates/folic acid and mediate delivery into interior of cells. Isolated folic acid can block these receptors.

GNMT – glycine N-methyltransferase - involved in a multistep process that breaks down the protein amino acid methionine. Specifically, glycine N-methyltransferase starts a reaction that converts the compounds glycine and S-adenosylmethionine to N-methylglycine and S-adenosylhomocysteine.

GPX3 – glutathione peroxidase 3 – encodes plasma glutathione peroxidise which functions in the detoxification of hydrogen peroxide. GPX3 scavenges peroxides.

GSR – glutathione reductase – regenerates oxidised glutathione (ie glutathione disulphide, GSSG) to reduced glutathione (ie the sulfhydryl form– GSH).

GSS – glutathione synthetase – enzyme that catalyses the final step in production of glutathione.

GST1 – glutathione-s-transferase – binds glutathione so that it can be used for conjugation reactions eg in the detoxification of compounds such as carcinogens, drugs etc. The enzyme occurs in a number of forms depending on its location in the body and in the cell.

HDC – histidine decarboxylase – catalyses the biosynthesis of histamine from histidine.

HNMT – histamine N-methyltransferase – present in most body tissues (not serum), it inactivates histamine by N-methylation. It plays an important role in degrading histamine.

MAO-A – monamine oxidase-A – assists in the breakdown of norepinephrine, epinephrine, serotonin (and dopamine) and metabolism of tyramine.

MAO-B – monoamine oxidase B – assists in the breakdown on dopamine. Also involved in histamine breakdown.

MMAB – Cob(I)yrinic acid, a,c-diamide adenosyltransferase mitochondrial – codes for the enzyme that catalyses the final step in the conversion of vitamin B12 into adenosylcobalamin, the mitochondrial form of B12.

MTHFD1 – methylenetetrahydrofolate dehydogenase 1 – catalyses 3 different steps in folic acid cycle which produces 10-formyl-THF for purine synthesis and 5,10-methylene THF. The latter is then converted to active 5-MTHF by the MTHFR enzyme.

MTR – methionine synthase - enzyme involved in the conversion of homocysteine to methionine.

MTRR – methionine synthase reductase - works with MTR, regenerating B12.

MTHFR – methylenetetrahydrofolate reductase – enzyme that is final step in converting inactive folates (including folic acid) to active 5-methyltetrahydrofolate (or methylfolate).

MTHFS – 5,10 methenyltetrahydrofolate synthetase – catalyses step in the folic acid cycle.

MUT – methylmalonyl CoA mutase – mitochondrial enzyme that catalyses the isomerisation of methylmalonyl-CoA to succinyl-CoA, an intermediate in the citric acid cycle. Succinyl CoA is important in the catabolism of some branched-chain amino acids as well as odd-chain fatty acids.

NOS – nitric oxide synthase – family of enzymes involved in nitric oxide production. Eg NOS3 or endothelial nitric oxide synthase (eNOS) produces nitric oxide in the vascular endothelium. Other forms of this enzyme produce nitric oxide in other parts of the body.

PAH – phenylalanine hydroxylase – catalyses the hydroxylation of the aromatic side-chain of phenylalanine to generate tyrosine.

PDH - pyruvate dehydrogenase - is the first component enzyme of pyruvate dehydrogenase complex which contributes to transforming pyruvate into acetyl-CoA by a process called pyruvate decarboxylation. Acetyl CoA enters the citric acid cycle.

PEMT – phosphatidylethanolamine-N-methyltransferase – helps to convert phostphatidylethanolamine to phosphatidylcholine. Important eg for oestrogen metabolism.

SHMT1 – serine hydroxymethyltransferase – catalyses the reversible simultaneous conversions of L-serine to glycine and tetrahydrofolate to 5,10 methylenetetrahydrofolate, providing 1 carbon units for synthesis of methionine, thymidylate and purines.

SOD – superoxide dismutase – antioxidant enzyme.

SUOX – sulfite oxidase – helps to detoxify sulfites in the body. Sulfites are generated as a byproduct of methylation cycle, as well as from sulphur containing foods and preservatives.

TCN2 – Transcobalamin 2 – protein transports B12 from the blood-stream into cells.

TH – tyrosine hydroxylase – first step in the pathway that produces catecholamines, converting tyrosine to L-dopa.

VDR-Taq – Vitamin D-3 receptor – codes for a protein that is a member of the vitamin D family of transcription factors.

CYTOPLAN

FOOD STATE™

A SELECTION OF PRODUCTS FROM OUR RANGE

CYTOPLAN

WHOLEFOOD

A SELECTION OF PRODUCTS FROM OUR RANGE

Relevant Cytoplan Products

Cytoplan has a range of Wholefood and Food State™ multiformulae containing methylfolate at 100 µg, 200 µg or 400 µg per dose including a pregnancy formula. Our Family Formula multi contains 20 µg methylfolate per tablet for those needing to start low. Vitamin B12 is included as methylcobalamin or hydroxycobalamin and vitamin B6 as P-5-P.

Alternatively, we have multiformulae containing folic acid from food. Folic acid from food is not the same as isolated folic acid. It is a polyglutamate (not a monoglutamate) and does not have the drawbacks that have been associated with isolated folic acid.

Wholefood 50+

Natural plant based multivitamin and mineral formula containing a vegetable base, including *Brassica*. Includes coenzyme Q10 for antioxidant support and beta-glucans for immune support.

Improved 50+ 2 capsules provide on average:		
Active Nutrient	**Strength**	**%NRV+**
Beta carotene	3.0mg	*
Vitamin D3	40.0µg	800
Vitamin E	30.0mg	250
Vitamin C	200.0mg	250
Thiamin (B1)	20.0mg	1816
Riboflavin (B2)	20.0mg	1428
Niacin (B3)	16.0mg	100
Vitamin B6 (P5P)	10.0mg	714
Folic Acid as L-methylfolate	200.0µg	100
Vitamin B12 as methylcobalamin	100.0µg	2380
Vitamin B12 as hydroxycobalamin	100.0µg	2380
Biotin	100.0µg	200
Pantothenic acid	50.0mg	834
Vitamin K2 (MK-7)	60.0µg	80
Iron	2.0mg	14
Magnesium	30.0mg	8
Zinc	15.0mg	150
Iodine	150.0µg	100
Boron	0.5mg	*
Copper	1.0mg	100
Manganese	3.0mg	150
Selenium	150.0µg	273
Chromium	160.0µg	400
Molybdenum	90.0µg	180
PABA	10.0mg	*
Beta 1-3, 1-6 Glucan	100.0mg	*
CoQ10 (ubiquinol)	80.0mg	*
+NRV = Nutrient Reference Value		
* Indicates no NRV		

Ingredients: Capsule shell (vegetable cellulose); beta 1-3, 1-6 glucan, coenzyme Q10 (ubiquinol); hydroponically grown cruciferous vegetable (*Brassica Juncea*) providing: zinc, iron, manganese, copper, selenium, chromium and molybdenum; fruit & vegetable powder blend (carrot, spirulina, alfalfa, artichoke leaf, beetroot, acai berry, acerola) incorporating: vitamin C; vitamin E; pantothenic acid; niacin; beta carotene; PABA; thiamin; P5P; vitamin D3; riboflavin; vitamin K2 (MK-7); methylcobalamin; hydroxycobalamin; folic acid as L-methylfolate, biotin, magnesium citrate, boron and iodine.

V Vv W 60 C

Alternative product codes: 3310, 3311, 3337, 4076, 4077, 4077, 4091, 4110, 4111, 4116, 4117, 4105

Niacin

Food State™, non-flushing form of niacin.

Niacin 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Niacinamide (B3)	50.0mg	312
+NRV = Nutrient Reference Value		

Ingredients: Inactive Lactobacillus bulgaricus combined with niacin, vegetable stearic acid. Lactobacillus bulgaricus is a friendly bacterial inhabitant of the GI tract. It is an effective and totally non allergenic carrier for nutrients.

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

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

Contraindications: None.

Non-Active Ingredients: Vegetable stearic acid.

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

P5P Extra

Food State™ B complex formula, without methylfolate.

P5P Extra 1 tablet provides on average		
Active Nutrient	**Strength**	**%NRV+**
Vitamin C	10.0mg	12.5
Thiamin (B1)	25.0mg	2273
Riboflavin (B2)	25.0mg	1786
Vitamin B6 (as P5P)	25.0mg	1786
Food State™ Vitamin B12	50.0µg	2000
Pantothenic acid	50.0mg	833
Chromium	10.0µg	25
Also contains: Magnesium and Zinc		
+NRV = Nutrient Reference Value		

Ingredients: Inactive Lactobacillus bulgaricus combined with riboflavin, pyridoxal 5 phosphate (vitamin B6), thiamin, pantothenic acid, Food State™ vitamin B12 and chromium III chloride; vegetable stearic acid; vitamin C incorporated in citrus pulp, tablet coating (vegetable cellulose, glycerine). Lactobacillus bulgaricus is a friendly bacterial inhabitant of the GI tract. It is an effective and totally non allergenic carrier for nutrients.

Suggested Intake:
1 tablet daily, or take as directed by a practitioner. May make urine turn bright orange because of high B2 levels. This is nothing to be concerned about.

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

Contraindications:
Long-term intakes of 10mg or more of vitamin B6 may lead to mild tingling and numbness

Non-Active Ingredients: Vegetable stearic acid, tablet coating (vegetable cellulose, glycerine).

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Alternative product code: 4019

Pantothenic Acid

Food State™ combined in a base of inactive *Lactobacillus bulgaricus.*

Pantothenic Acid 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Pantothenic Acid (B5)	50.0mg	833
+NRV = Nutrient Reference Value		

Ingredients: Inactive Lactobacillus bulgaricus combined with pantothenic acid; vegetable stearic acid; silicon dioxide. Lactobacillus bulgaricus is a friendly bacterial inhabitant of the GI tract. It is an effective and totally non allergenic carrier for nutrients.

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

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

Contraindications: None.

Non-Active Ingredients:
Vegetable stearic acid. silicon dioxide.

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Methylfolate 400 mcg

Folic acid as methylfolate in a wholefood alfalfa base. Methylfolate is an active form of folate that can be used in the methylation cycle without further conversion.

L-Methylfolate 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV⁺**
L-methylfolate (Folic Acid)	400.0µg	200
+NRV = Nutrient Reference Value		

Ingredients: Capsule shell (vegetable cellulose), L-methylfolate combined with alfalfa.

Suggested Intake: 1 capsule daily, or take as directed by a practitioner.

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

Contraindications: None.

Non-Active Ingredients:
Capsule shell (vegetable cellulose).

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Vitamin B12 Methylcobalamin

An active form of vitamin B12, provided in sublingual tablet form. This form may be indicated to provide 'methyl' groups; for people who do not recycle B12 effectively; where an active form is needed eg if it is suspected there are conversion issues from the inactive form (ie hydroxycobalamin).

New improved will be available later in 2016 containing 500 µg of each of adenosylcobalamin and methylcobalamin.

Vitamin B12 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Vitamin B12 as methylcobalamin	500.0µg	20,000
+NRV = Nutrient Reference Value		

Ingredients: Dextrose, microcrystalline cellulose, vitamin B12 (as methylcobalamin); vegetable stearic acid, crosscarmellose sodium.

Suggested Intake:
Place 1 tablet daily under the tongue until it is dissolved completely, or take as directed by a practitioner.

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

Contraindications: None.

Non-Active Ingredients: Dextrose, microcrystalline cellulose, vegetable stearic acid, crosscarmellose sodium

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Vitamin B12 Hydroxycobalamin

An inactive form of vitamin B12, provided in sublingual tablet form. Hydroxycobalamin can be converted to methylcobalamin (the cytosolic form) or adenyosylcobalamin (the mitochondrial form) as needed. This form may be indicated to start supplementation of B12 if there is also a folate deficiency; as a scavenger of nitric oxide, an essential muscle regulator that can also act as a free radical in excess; and for people who do not tolerate methyl groups.

Vitamin B12 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Vitamin B12 as hydroxycobalamin	1mg	40,000
+NRV = Nutrient Reference Value		
Ingredients: Dextrose, microcrystalline cellulose, vitamin B12 (as hydroxycobalamin); vegetable stearic acid, crosscarmellose sodium.		
Suggested Intake: Place 1 tablet daily under the tongue until it is dissolved completely, or take as directed by a practitioner.		
Suitable for: Vegetarians, vegans and for people with Candida and yeast sensitivities.		
Contraindications: None.		
Non-Active Ingredients: Dextrose, microcrystalline cellulose, vegetable stearic acid, crosscarmellose sodium		
Non GM & Free From: Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.		
Storage: Keep cool, dry & out of direct sunlight.		

VV 60 T

Wholefood Cherry C

A wholefood source of vitamin C from powdered acerola cherry. Acerola contains a whole array of bioflavonoids. Gentle so can be taken on an empty stomach.

Wholefood Cherry-C 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Whole Acerola Cherry Powder	800.0mg	*
providing Vitamin C	200.0mg	250
+NRV = Nutrient Reference Value		
* Indicates no NRV		
Ingredients: Whole acerola cherry powder providing naturally-occurring bioflavonoids, capsule shell (vegetable cellulose).		
Suggested Intake: 1-2 capsules daily, or take as directed by a practitioner.		
Suitable for: Vegetarians, vegans and for people with Candida and yeast sensitivities.		
Contraindications: None.		
Non-Active Ingredients: Vegetable cellulose (capsule shell)		
Non GM & Free From: Wheat, starch, gluten, dairy, added sugars, colourings, flavourings & preservatives.		
Storage: Keep cool, dry & out of direct sunlight.		

Alternative product codes: 1041, 1044, 1045, 1902, 1903, 4043, 4046

Vitamin D3 Vegan (2,500 iu)

Vegan Vitamin D from lichen. Vitamin D3 is the most bioavailable form of this nutrient.

Vitamin D3 - Vegan 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Vitamin D3	62.5µg (2500i.u.)	1250
+NRV = Nutrient Reference Value		

Ingredients:
Maltodextrin, vegan vitamin D3 preparation from lichen (starch, sucrose, silicon dioxide, d-alpha tocopherol, ascorbyl palmitate, cholecalciferol), stearic acid.

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

Suitable for: Vegans and Vegetarians and for people with Candida and yeast sensitivities.

Contraindications: None.

Non-Active Ingredients:
Maltodextrin, starch, sucrose, silicon dioxide, d-alpha tocopherol, ascorbyl palmitate, stearic acid.

Non GM & Free From:
Wheat, gluten, yeast; lactose; dairy, colours, flavours and preservatives.

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

Alternative product code: 3324

BioFood Magnesium

Food State™ magnesium combined in a food base of inactive *Lactobacillus bulgaricus* to provide an organic matrix form of magnesium.

Biofood Magnesium 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Magnesium	100.0mg	27
+NRV = Nutrient Reference Value		

Ingredients:
Magnesium citrate combined in inactive Lactobacillus bulgaricus microcrystalline cellulose, vegetable stearic acid, tablet coating (vegetable cellulose, glycerine). Lactobacillus bulgaricus is a friendly bacterial inhabitant of the GI tract. It is an effective and totally non allergenic carrier for nutrients.

Suggested Intake:
1-2 tablets daily, 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, vegetable stearic acid, tablet coating (vegetable cellulose, glycerine).

Non GM & Free From:
Yeast, wheat; starch, gluten, dairy, added sugars, colourings, flavourings & preservatives.

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

VV FS 60 120 T

Alternative product: 2091

Wholefood zinc

Wholefood zinc is made from minrerals that have been hydroponically grown into a cruciferous vegetable that is a member of the *Brassica* family.

Wholefood Zinc 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV⁺**
Zinc	7.5mg	75
+NRV = Nutrient Reference Value		

Ingredients:
Hydroponically-grown cruciferous vegetable (Brassica juncea) providing zinc, capsule shell (vegetable cellulose).

Suggested Intake:
1-2 capsules daily, or take as directed by a practitioner.

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

Contraindications: None.

Non-Active Ingredients:
Capsule shell (vegetable cellulose).

Non GM & Free From:
Yeast, wheat; starch, gluten, dairy, added sugars, colourings, flavourings & preservatives.

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

Alternative product: 4081

Wholefood iron

Wholefood iron is made from minerals that have been hydroponically grown into a cruciferous vegetable that is a member of the *Brassica* family.

Wholefood Iron 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Iron	5.0mg	36
+NRV = Nutrient Reference Value		

Ingredients: Hydroponically-grown cruciferous vegetable (Brassica Juncea) providing Iron, capsule shell (vegetable cellulose).

Suggested Intake: 1-3 capsules daily, or take as directed by a practitioner.

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

Contraindications:
It is not recommended that men and post-menopausal women supplement with iron unless recommended to do so by a doctor or practitioner. Iron, if taken in excess, may be harmful to very young children.

Non-Active Ingredients:
Capsule shell, (vegetable cellulose).

Non GM & Free From:
Wheat, starch, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

VV W 60 C

Alternative product: 4070

Food State™ selenium

Food State™ selenium is a natural, organic form of the mineral that has been incorporated into a yeast base. Selenium yeast has been documented by the European Food Safety Authority as being the safest and most bioeffective form of yeast.

Food State™ Selenium 100µg 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Selenium	100.0µg	182
+NRV = Nutrient Reference Value		

Ingredients: Microcrystalline cellulose, mineral-enhanced yeast providing selenium, vegetable stearic acid, silicon dioxide, sodium carboxymethylcellulose.

Suggested Intake:
1 tablet daily, 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, vegetable stearic acid, silicon dioxide, sodium carboxymethylcellulose.

Non GM & Free From:
Wheat, starch, gluten, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Omega-3 Vegan

Derived from the plant marine algae *Schizochytrium sp* grown in a controlled environment, eliminating the risk of oceanic contamination. Contains a high DHA : EPA ratio.

Omega 3 Vegan 2 capsules provides on average:	
Active Nutrient	**Strength**
Vegan Omega 3	500.0mg
Which provides	
EPA	166.0mg
DHA	334.0mg

Ingredients:
Schizochytrium sp. from marine algae providing DHA & EPA, soft gel capsule (modified cornstarch, glycerol) tocopherol (antioxidant), sunflower oil, ascorbyl palmitate.

Suggested Intake:
1-2 capsules daily, or take as directed by a practitioner.

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

Contraindications: If there is any deficiency of the liver, or if you are on antithrombotic drugs (e.g. Warfarin or Heparin), please consult a doctor first and take no more than 1 capsule per day.

Non-Active Ingredients: Soft gel capsule (modified cornstarch, glycerol) tocopherol (antioxidant), sunflower oil, ascorbyl palmitate.

Non GM & Free From:
Wheat, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.

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

Alternative products codes: 1155, 1160, 1161, 1163, 1215

Evening primrose oil

Cold pressed evening primrose oil containing 10% GLA.

Evening Primrose Oil 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Evening Primrose Oil Low in saturated fatty acids. Contains 10% GLA.	500.0mg	*
+NRV = Nutrient Reference Value		
* Indicates no NRV		

Ingredients:
Evening primrose oil, capsule shell (vegetable gelatine) glycerol, glycerine and pure water.

Suggested Intake:
1-2 capsules daily or take as directed by a practitioner.

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

Contraindications:
Consult your doctor before using if you suffer from epilepsy and are on medication for it.

Non-Active Ingredients:
Capsule shell (potato starch, glycerol, sorbitol syrup, eucheuma seaweed, mono-diglycerides of edible fatty acids, antioxidant (tocopherol-rich extract).

Non GM & Free From:
Wheat, starch, gluten, yeast, dairy, added sugars, colourings, flavourings & preservatives.

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

Golden Phospholec

Super strength golden lecithin granules that are GMO free, with no additives or artificial ingredients. Contains a phosphatidyl choline level of 30-35%.

Phospholec per 3g dose	
Average Values	**per 3g**
Energy (kj)	111
(Kcal)	27
Protein (g)	0.003g
Carbohydrate (g)	0.24g
Of which:	
Monosaccharides and Disaccharides	0.12g
Polysaccharides	0.12g
Total Fat (g)	2.73g
Total Fatty Acids (g)	1.5g
Of which:	
- saturates	0.345g
- monounsaturates	0.135g
- polyunsaturates	1.02g
Phospholipids (g)	2.1g
Of which:	
- Phosphatidyl Choline (g)	0.99g
- Phosphatidyl Ethanolamine (g)	0.45g
- Phosphatidyl Inositol (g)	0.48g
- Phosphatidic Acid (g)	0.18g
Cholesterol	Nil
Fibre	Nil
Sodium	Trace

Ingredients: High potency soya lecithin granules

Suggested Intake: 1-2 level teaspoons (3-6g) twice daily, or as recommended by a practitioner.

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

Contraindications: Not suitable for people with soy sensitivities.

Non-Active Ingredients: None.

Non GM & Free From:
Wheat, starch, gluten, yeast, dairy, added sugars, colourings, flavourings & preservatives.

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

Choline bitartate

Choline bitartrate is a gentle and bio-available form of choline, suitable for those with impaired liver function.

Choline Bitartrate Powder 1 level teaspoon provides on average:		
Active Nutrient	**Strength**	**%NRV†**
Choline Bitartrate	3.6g	*
Elemental Choline	1.8g	*
†NRV = Nutrient Reference Value		
* Indicates no NRV		
Ingredients: Soluble Choline Bitartrate powder.		
Suggested Intake: ½ to 1 level teaspoon twice daily with meals, or take as directed by a practitioner.		
Suitable for: Vegetarians, vegans and for people with Candida and yeast sensitivities.		
Contraindications: None.		
Non-Active Ingredients: None.		
Non GM & Free From: Wheat, gluten, yeast, soy, dairy, added sugars, colourings, flavourings & preservatives.		
Storage: Keep cool, dry & out of direct sunlight.		

Phyte-Inflam

Curumin, gingerols and piperine. Piperine enhances the activity and bioavailability of both curcumin and gingerols.

Phyte-Inflam 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Curcumin (95% curcuminoids)	250.0mg	*
Ginger root (5% gingerols)	150.0mg	*
Piperine	2.5mg	*
+NRV = Nutrient Reference Value		
* Indicates no NRV		
Ingredients: Curcumin, ginger root, capsule shell (vegetable cellulose), piperine.		
Suggested Intake: 1-2 capsules daily with food, or take as directed by a practitioner.		
Suitable for: Vegetarians, vegans and for people with Candida and yeast sensitivities.		
Contraindications: Pregnant and lactating women and people on medication should consult a qualified health professional before using this product.		
Non-Active Ingredients: Capsule shell (Vegetable cellulose).		
Non GM & Free From: Wheat, starch, gluten, yeast, soy, dairy,added sugars, colours, flavours & preservatives.		
Storage: Keep cool, dry & out of direct sunlight.		

Methyl Factors

Methyl Factors has been developed to support those who need extra methyl donor nutrients to support methylation. Methyl factors can be taken alongside one of our regular multiformulae products.

Methyl Factors 1 tablet provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Trimethylglycine (TMG - Betaine)	500.0mg	*
Riboflavin	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	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, tablet coating (vegetable cellulose), 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, tablet coating (vegetable cellulose), silicon dioxide.

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

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

Milk thistle

Whole herb in a powdered form.

Milk Thistle 1 capsule provides on average:		
Active Nutrient	**Strength**	**%NRV+**
Milk Thistle powder	400.0mg	*
+NRV = Nutrient Reference Value		
* Indicates no NRV		

Ingredients:
Milk thistle powder; capsule shell (vegetable cellulose).

Suggested Intake: 2 capsules 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:
Capsule shell (vegetable cellulose).

Non GM & Free From:
Wheat, starch, gluten, yeast, dairy, added sugars, colourings, flavourings & preservatives.

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

Fos-A-Dophilus

Contains 6 active strains of live bacteria and is particularly high in *Bifidobacteria* species which tend to be less easily regenerated with age.

Fos-a-dophilus 1 capsule provides on average:	
Active Ingredient	**Strength**
Inulin (fructo-oligosaccharides) plus 4 billion live* bacteria:	250.0mg
Lactobacillus rhamnosus	55%
Bifidobacterium bifidum	10%
Bifidobacterium breve	10%
Bifidobacterium infantis	10%
Bifidobacterium longum	10%
Lactobacillus acidophilus	5%

Ingredients: Inulin (fructo-oligosaccharide), maltodextrin, capsule shell: (vegetable cellulose), dehydrated lactic acid bacteria culture (Lactobacillus rhamnosus, Bifidobacterium bifidum, Bifidobacterium breve, Bifidobacterium infantis, Bifidobacterium longum and Lactobacillus acidophilus), antioxidant (ascorbic acid). *Live viable dehydrated bacteria.

Suggested Intake:
1-2 capsules daily, ideally taken 1-2 hours after eating, or take as directed by a practitioner.

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

Contraindications: None.

Non-Active Ingredients:
Capsule shell (vegetable cellulose), ascorbic acid.

Non GM & Free From:
Wheat, starch, gluten, yeast, dairy, added sugars, colourings, flavourings & preservatives.

Storage:
Keep cool, dry & out of direct sunlight. No need to refrigerate. Use within two months of opening.

Alternative product codes: 4141 3220, 1269

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