



Cardiovascular and Metabolic Health

Natural treatment options to support cardiovascular wellbeing and metabolic health.



Cardiovascular and Metabolic Health

Research reveals that chronic inflammation plays a pivotal role in the development of cardiovascular disease (CVD).¹ Clinically, a prolonged inflammatory response in CVD is associated with several factors, including unresolved infections, low physical activity, visceral obesity, dysbiosis, poor diet, stress, disturbed sleep, and pollutant exposure.² For this reason, Natural Medicine Practitioners are expertly placed and well-equipped to support patient recovery.

CVD affects the overall health and function of the heart and blood vessels. Following prolonged inflammation within these tissues, heightened immune activation and oxidative stress can lead to a build-up of vascular plaque,³ which increases the risk of stroke and myocardial infarction (e.g. heart attacks).

Additionally, these vascular changes are often compounded by the presence of metabolic dysfunction. Observed in 20% to 25% of patients worldwide,⁴ abnormally elevated blood lipids, insulin and glucose strongly increases CVD risk.⁵

In these individuals, conventional care seeks to address the signs and symptoms of CVD – namely hypertension, dyslipidaemia, hyperinsulinaemia, and hyperglycaemia. While this approach provides necessary measures to help manage CVD, underlying inflammatory drivers of must also be addressed to achieve best results.

When treating CVD and metabolic dysfunction, there are three key treatment aspects: an initial core prescription, a thorough patient assessment and a specialised treatment plan.

1. Core Prescription

CVD patients: There are three nutrients that all cardiovascular patients will benefit from – bioavailable magnesium, high-strength, pure fish oil and enhanced absorption coenzyme Q10.

Metabolic dysfunction patients: A highly bioavailable magnesium formula teamed with a comprehensive metabolic-balancing formula form the ideal core prescription.

These therapeutic tools can address underlying pathology and support cardiovascular and metabolic health, while more specific requirements are being determined.

2. Assess Patient Status

Taking a thorough patient history including diet and lifestyle, reviewing pathology results and utilising simple in-clinic testing, such as blood pressure and omega-3 index assessment can help to build a complete picture and determine treatment goals and priorities.

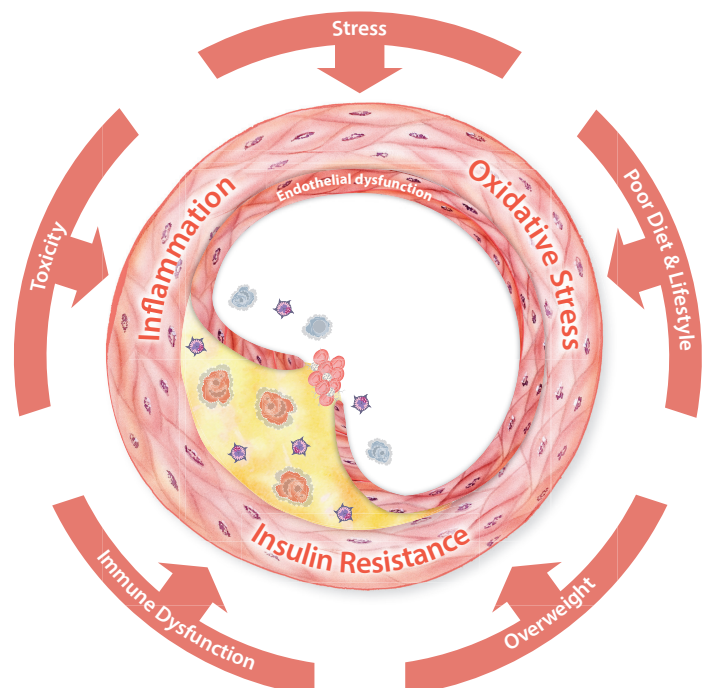
3. Patient Specific Prescribing

Once the patient has been assessed, an individual treatment plan can be compiled to target specific symptoms and the drivers that are causing them.

Symptomatic relief: Provide support specific to each patient and their symptoms including high blood pressure, and elevated blood sugars, cholesterol and triglycerides. These issues are often what drives patients to see a Natural Medicine Practitioner, and improvement in these areas will motivate patients to continue to make positive changes.

Target drivers: Natural Medicine Practitioners are well placed to support patients in managing contributing factors that are associated with CVD and metabolic dysfunction. Underlying drivers such as obesity, poor diet, and unhealthy lifestyle can be improved by supporting patients to modify their habits and providing them with tools to make more healthful choices.

Outside of these factors, infection, toxicity and stress may require additional treatment. The Metagenics Shake It Practitioner Weight Management Program, Clinical Detoxification Program and the Clinically Effective Stress, Anxiety and Mood Range provide a straightforward, structured approach to support these areas.



Contributing Factors to Cardiovascular and Metabolic Health Conditions

Patient Specific Treatment Options for Cardiovascular and Metabolic Symptoms

CORE		CARDIOVASCULAR	METABOLIC	CHOLESTEROL AND TRIGLYCERIDES	BLOOD PRESSURE	BLOOD SUGAR	NUTRITIONAL SUPPORT
		 • 300 mg Meta Mag® Magnesium • 3.0 g Taurine • Tropical or Banana Berry flavour • Fructose free option	 • 500 mg EPA • 200 mg DHA	 • 300 mg Meta Mag® Magnesium • 3 g Taurine • Tropical or Banana Berry flavour • Fructose free option	 • 1 g Indian Barberry • 125 mg Milk Thistle • 38 micrograms Chromium Chloride Hexahydrate • 13 micrograms Chromium Picolinate	 • 1000 micrograms activated Vitamin B12 • 500 micrograms 5-MTHF	 • 120 mg Meta Fe® Iron bisglycinate • 200 micrograms 5-MTHF
 • 498 mg concentrated fish Omega-3 Triglycerides (LIPINOVA-11TG™)	 • 1 g Indian Barberry • 125 mg Milk Thistle • 138 micrograms Chromium Chloride Hexahydrate • 13 micrograms Chromium Picolinate	 • Bifidobacterium animalis ssp lactis (HN019™) • Bifidobacterium animalis ssp lactis (B-420™)	 • 150 mg Coenzyme Q10 • VESisorb® enhanced delivery system	 • 600 mg Alpha lipoic acid			
 • 150 mg Coenzyme Q10 • VESisorb® enhanced delivery system		 • 270 mg Citrus Bioflavonoids extract • 18 mg Tocotrienols complex - palm*					



CardioX

Magnesium and Active Bs for Cardiovascular Health.

Contents: 200 g (12.5 days) and 400 g (25 days) oral powder

Order Code: Banana Berry: CDXBB (200 g), CDXBBL (400 g)

Tropical: CDX (200 g), CDX400 (400 g)

Storage: Store below 30°C

- Maintain normal cardiovascular health.¹
- Maintain healthy levels of biomarkers associated with cardiovascular health such as homocysteine.²
- Contains clinically trialled levels of magnesium (Meta Mag[®]) and taurine.
- Chromium is a cofactor of the biochemical pathway assisting the transport of glucose into cells.

One level scoop (8.1 g) contains:

Magnesium glycinate dihydrate (Meta Mag [®] - Magnesium bisglycinate)	3 g
Equivalent Magnesium	300 mg
Taurine	3 g
Calcium amino acid chelate	300 mg
Equivalent Calcium	60 mg
Pyridoxal 5-phosphate (Vitamin B6)	25 mg
Riboflavin sodium phosphate	2.7 mg
Equivalent Riboflavin (Vitamin B2)	2 mg
Chromic chloride hexahydrate	513 micrograms
Equivalent Chromium	100 micrograms
Mecobalamin (Co-methylcobalamin) (Vitamin B12)	200 micrograms
Levomefolate calcium	163 micrograms
Equivalent Levomefolic acid (5-Methyltetrahydrofolate)	150 micrograms
Selenomethionine	125 micrograms
Equivalent Selenium	50 micrograms

Directions for use: Adults: Add 1 level scoop (8.1 g) to 200 mL of water or juice twice daily.

Clinical Benefits:

Studies on 600 mg magnesium and 6 g taurine have been shown to decrease mean blood pressure by 4.77% and 5.63% respectively after supplementation (Figure 1).^{5,6} Taurine may assist in the maintenance of normal blood pressure in healthy people by normalisation of the increased sympathetic adrenal tone and inhibiting the stress-induced release of epinephrine from adrenal chromaffin granules.⁶

In healthy people, riboflavin, folate and vitamin B12 may help support healthy homocysteine levels,^{7,8,9} a biomarker associated with cardiovascular health.¹⁰ A randomised placebo-controlled study in healthy women aged 18 to 40, examined the effect of low-dose folic acid administration on total plasma homocysteine concentrations. Results showed a significant change in homocysteine in just four weeks.² Folinic acid has advantages over folic acid as it bypasses a number of steps in the conversion of folic acid to 5-methyltetrahydrofolate, the active form required for the remethylation of homocysteine to methionine.^{11,12}

Mechanisms for blood glucose support¹³ in healthy people may include the synthesis of chromodulin, by chromium, which stimulates phosphorylating cytosolic proteins. These are involved in signalling within the pancreas, thereby assisting healthy blood glucose levels.¹⁴

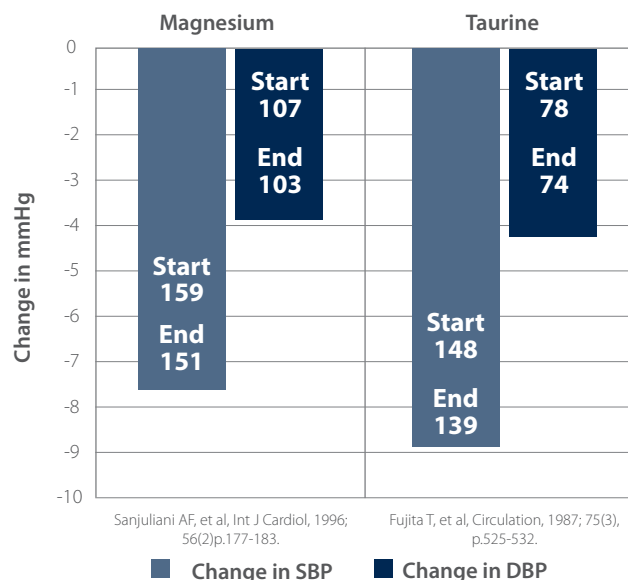


Figure 1: Magnesium and Taurine Supplementation in Blood Pressure.

Banana Berry: Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts and soy protein. Free from artificial colours, flavours and sweeteners. Sweetened with steviol glycosides.

Tropical: Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts and soy protein. Free from artificial colours and flavours. Sweetened with steviol glycosides.

Meta Mag[®] is a registered trademark of Balchem Corp.



Resist-X Advanced

Supports Healthy Blood Glucose, Carbohydrate Metabolism and Liver Function.

Contents: 60 tablets (30 days)

Order Code: RSXA60

Storage: Store below 30°C

- Innovative formula containing berberine and milk thistle which exert a synergistic effect to target insulin resistance and liver dysfunction simultaneously.
- Supports healthy blood sugar balance and carbohydrate metabolism.
- Supports the liver and modulates lipid metabolism.

Each tablet contains:

Chromic chloride hexahydrate	705 micrograms
Equivalent chromium	138 micrograms
Chromium picolinate	101 micrograms
Equivalent chromium	13 micrograms
Dry Herbal Extracts:	
<i>Berberis aristata</i> (Indian Barberry), root	1 g
Derived from dry root	5 g
Equivalent to berberine chloride	500 mg
<i>Silybum marianum</i> (Milk Thistle), seed	125 mg
Derived from dry seed	8.8 g
Equivalent to Flavanolignans calculated as Silybin	105 mg

Directions for use: Adults: Take 1 tablet twice daily with food.

Clinical Benefits:

Berberine from Indian barberry and milk thistle exert a synergistic effect.¹ Milk thistle supports healthy liver function and reduces free radicals formed in the body.² Berberine typically has low oral bioavailability, and its cellular uptake is limited by the P-glycoprotein efflux pump located on cell membranes. Milk thistle's flavanolignans act as inhibitors of this pump,³ supporting berberine's cellular uptake (Figure 1).⁴ In a single-blind, randomised placebo-controlled trial, patients with elevated blood sugar given the combination of 210 mg per day of milk thistle flavanolignans with Indian barberry, equating to 1 g per day of berberine, was shown to synergistically increase berberine's therapeutic effects on glycosylated haemoglobin (HbA1c) compared to the same dose of Indian barberry given alone ($p < 0.05$).⁵ The two ingredients in a randomised double-blind placebo-controlled trial led to significant reductions in biomarkers: body mass index (BMI), waist circumference and visceral fat compared to placebo after 12 months of supplementation ($p < 0.01$).⁶

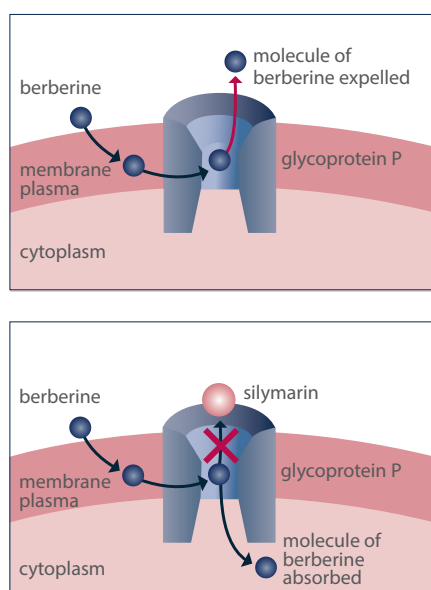


Figure 1: Milk Thistle's Flavanolignans Support Berberine's Cellular Uptake.⁷

Poor blood sugar control is associated with low-grade systemic inflammation (meta inflammation) caused by nutrient excess.⁸ The twin-cycle hypothesis presents the interconnecting pathways following overnutrition and inflammation, leading to fat accumulation in the liver and insulin resistance. The result of higher very low density lipoprotein (VLDL) in the circulation leads to fat accumulation in the pancreas and subsequently, beta cells (β -cells) dysfunction.⁹ To improve insulin resistance, both pancreatic β islet cell dysfunction and liver lipid metabolism must be addressed (Figure 2).^{10,11}

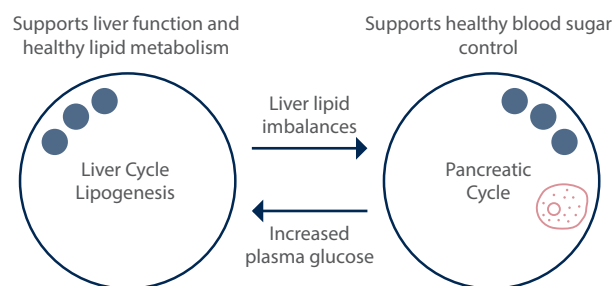


Figure 2: The Twin Cycle Hypothesis – Addressing the Pancreas and the Liver.¹²

Chromium assists carbohydrate metabolism, supports healthy blood sugar, and is an essential element in glucose homeostasis.¹³ It achieves this by promoting insulin signalling.¹⁴ A meta-analysis of human clinical trials showed combining milk thistle and Indian barberry presented a significant reduction in fasting blood glucose, total cholesterol, triglycerides, low density lipoproteins, and a significant increase in high density lipoproteins.¹⁵

Metabolic stress, such as lipodysfunction and meta inflammation may predispose to pancreatic impairment.¹⁶ Metabolic imbalances (e.g. fatty liver, insulin resistance, weight gain and hormonal imbalances) all involve liver function alterations, fatty acid abnormalities and changes in blood sugar control.¹⁷ Berberine aids the breakdown of dietary fat and protects the liver. In an animal study, berberine improves pancreatic β islet cell function under metabolic stress.¹⁸ In another animal study, berberine has been shown to reduce hypercaloric induced liver lipid infiltration,¹⁹ and was also shown to inhibit pancreatic inflammation and pancreatic β islet cell damage associated with insulin resistance.²⁰

Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast and soy protein. Free from artificial colours, flavours and preservatives.



SPM Active™

Specialised Pro-Resolving Mediators.

Contents: 60 capsules (30 days) and 120 capsules (60 days)

Order Code: SPM60

Storage: Store below 30°C

- Stimulates resolution of inflammation.¹
- Assists unresolved and chronic inflammatory processes by actively helping the body naturally restore homeostasis.²
- SPM Active™ contains standardised and concentrated specialised pro-resolving mediators (SPMs) exclusive to Metagenics.

Each capsule contains:

Concentrated fish Omega-3 triglycerides (LIPINOVA-11TG™)	498 mg
Equivalent Eicosapentaenoic acid (EPA)	50 mg
Equivalent Docosahexaenoic acid (DHA)	100 mg

Directions for use: Adults: Take 1 capsule twice daily.

Clinical Benefits:

SPM Active™ is a specific and targeted approach to facilitate the resolution phase in patients experiencing inflammation which may be failing to resolve in a timely manner. Unresolved inflammation can lead into low-grade, chronic inflammation that may worsen existing disease states, impair recovery/healing and negatively affect healthy ageing.³ Chronic disease is an increasing health burden and it is now estimated that 1 in 3 Australians live with at least one chronic inflammatory condition including arthritis and other musculoskeletal disorders, cardiovascular disease and diabetes mellitus.⁴

SPMs found in SPM Active™ are lipid mediators that occur naturally in the body and have been found in various human tissue (such as the brain, lymph nodes and synovial fluid).⁵ SPMs orchestrate resolution at the site of inflammation to assist tissue repair, healing, recovery and the return to homeostasis.⁶ These mediators help to:

- Activate the resolution phase.
- Signal to, and recruit certain immune cells and inflammatory mediators.
- Repair damage and clearance of pathogens.
- Prevent further pathological inflammation without immunosuppression.^{7,8}

Despite omega-3 EPA and DHA being precursors of SPMs, they do not possess significant pro-resolving properties.⁹ Metagenics, in collaboration with SPMs experts and world-renowned leaders in the field of resolution physiology, are the first to set the standard for defining SPMs within a therapeutic supplement. Using a refined, patent pending fractionation process, specific SPM fractions are standardised for consistent dosing and therapeutic patient outcomes. The special fraction and ratio is isolated, concentrated and measured for bioactivity to verify the active SPMs 17-HDHA and 18-HEPE. This process is exclusive to Metagenics, providing an inflammation-specific solution that is truly Practitioner-only.

Free from corn, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein and starches. Free from artificial colours, sweeteners and flavours. Contains fish.

Lipinova™ is a trademark of SOLUTEX GC.



Patents: Australia/AU 2013259503
New Zealand/NZ 702325



Metagen Methyl-Active

Active B Vitamins Plus Serine for Healthy Methylation.

Contents: 60 capsules (VegeCaps) (60 days)

Order code: MB12

Storage: Store below 30°C

- Supports healthy homocysteine levels, red blood cell maturation and cardiovascular health.^{1,2}
- Plays a vital role in neurotransmitter metabolism for normal cognitive function and healthy mood.^{3,4}
- Bio active B2, B6, B12 and folate, in a once daily dose.⁵

Each capsule contains:

Serine	100 mg
Pyridoxal 5-phosphate monohydrate (Vitamin B6)	40 mg
Riboflavin sodium phosphate (Riboflavin 5-phosphate sodium)	27 mg
Equivalent Riboflavin (Vitamin B2)	20 mg
Mecobalamin (Co-methylcobalamin) (Vitamin B12)	1000 micrograms
Levomefolate calcium	541 micrograms
Equivalent Levomefolic acid (5-Methyltetrahydrofolate)	500 micrograms

Directions for use:

Adults: Take 1 capsule daily with food.

Clinical Benefits:

Maintain cardiovascular health by supporting normal homocysteine levels.⁶ A meta-analysis of 25 randomised, controlled trials encompassing 2,596 patients found that supplementation with folic acid and vitamin B12 resulted in a significant reduction of plasma homocysteine levels.⁷ These nutrients are also essential for normal red blood cell maturation and DNA synthesis.^{8,9}

Support healthy cognition and mood. Folate and vitamin B6 are precursors to the neurotransmitters serotonin, epinephrine and dopamine.^{4,10,11} Pyridoxal 5-phosphate is also useful in maintaining normal stress levels due to its role in the formation and conversion of neurotransmitters associated with stress.¹²

Treatment of vitamin B2, B6 and B12 deficiencies.

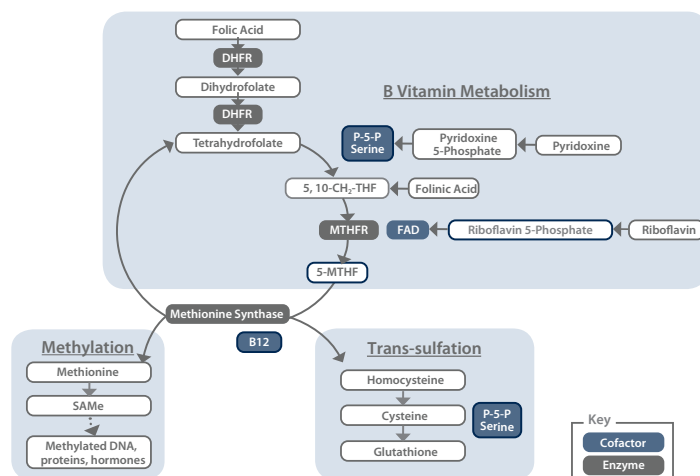


Figure 1: Bio Active Ingredients in Metagen Methyl-Active are Essential for Homocysteine Metabolism.

Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein and salt. Free from artificial colours, flavours and preservatives.



Bio Q-Absorb 150

Maximum Strength Coenzyme Q10 with Exclusive VESIsorb® Technology for Enhanced Absorption.

Contents: 30 soft gel capsules (30 days), 60 soft gel capsules (60 days)

Order code: BIQ150, BIQ150L

Storage: Store below 30°C

- Provide enhanced absorption technology versus oil-based CoQ10 via an exclusive VESIsorb® delivery system.
- Support cellular energy production and heart health.

Each capsule contains:

Ubidecarenone (Coenzyme Q10) 150 mg

Directions for use: Adults: Take 1 capsule daily.

Excipients: *VESIsorb®, gelatin, glycerol, purified water, nature identical colours.

Clinical Benefits:

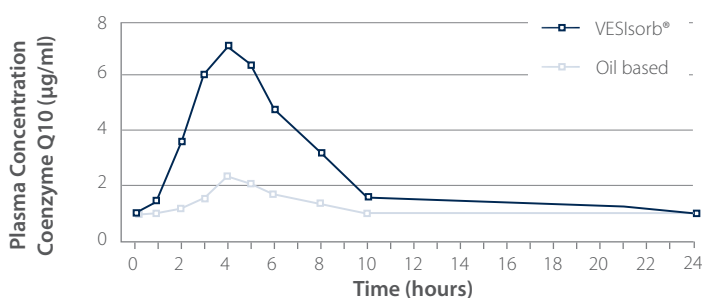
Innovative and exclusive VESIsorb® colloidal delivery system, for enhanced absorption and efficiency of orally administered CoQ10:

Pharmacokinetic studies in humans have measured the relative bioavailability of Coenzyme Q10 with the VESIsorb® delivery system compared to standard oil-based CoQ10 products. VESIsorb® improved CoQ10 absorption by 622% compared to an oil-based formulation (Figure 1).² Bioavailability of CoQ10 is low due to its poor solubility in water. VESIsorb® improves absorption by imitating the naturally occurring mixed micellar transport system in the human body. The CoQ10 is microscopically and evenly dispersed throughout the VESIsorb® delivery system allowing the transport of CoQ10 through the GI lumen to the absorptive epithelium (Figure 2).

Energy production: CoQ10 supports healthy mitochondrial function by assisting with energy production and protecting mitochondrial membranes from free radical damage.³

Cardiovascular health: Mitochondria are abundant in cardiomyocytes providing adequate ATP production for healthy cardiovascular function. CoQ10 exerts potent free radical scavenging activity in lipid and mitochondrial membranes, several clinical trials have shown CoQ10 to reduce the oxidation of LDL cholesterol. CoQ10 may also help to support healthy blood pressure in healthy people, by improving endothelium-dependant vasodilation and β -adrenoceptor-mediated arterial relaxation. Individual's on statin medications may benefit from CoQ10 supplementation as they deplete the body of CoQ10 by interfering with the production of mevalonic acid, a precursor in the synthesis of CoQ10.

Certain groups benefit from supplementing with the active (reduced) form of CoQ10, ubiquinol, over ubiquinone due to impaired endogenous conversion.⁸ Ubiquinone is converted to ubiquinol by NADH dehydrogenase, which passes electrons from NADH to ubiquinone to form ubiquinol.⁹ This process can be hindered by high levels of oxidative stress and some medications.^{10, 11, 12}



Liu, Z. and Artmann, C. Relative bioavailability comparison of different coenzyme Q10 formulations with a novel delivery system. *Alternative Therapies*. Mar/Apr 2009, Vol. 15, No. 2.

Figure 1: VESIsorb® Increases Absorption of CoQ10.

Free from corn, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein and starches. Free from artificial sweeteners and flavours.



TocoCare

Citrus Bioflavonoids and Tocotrienols Complex.

Contents: 30 capsules (30 days)

Order Code: CLCR

Storage: Store below 30°C

- Contains a combination of citrus bioflavonoids and sustainably sourced palm oil tocotrienols.
- Assists in the maintenance of general health and well-being.

Each capsule contains:

Citrus bioflavonoids extract	270 mg
Palm tocotrienols complex*	18 mg

Directions for use: Adults: Take 1 capsule at night.

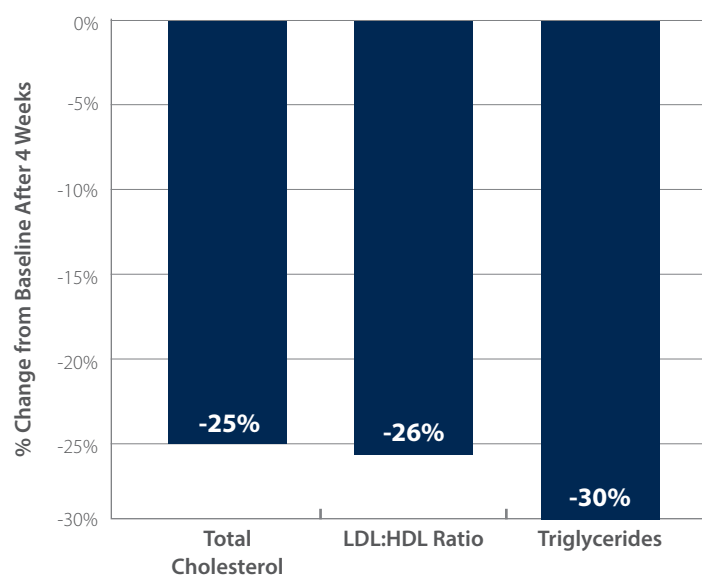
Clinical Benefits:

The combination of 270 mg of citrus bioflavonoids and 18 mg of tocotrienols, has been shown to impact total cholesterol by an average of 25% over four weeks and 27% over 12 weeks¹: Three studies including a double blind, randomised clinical trial plus two open-label trials demonstrated significant reductions in total cholesterol, triglycerides and LDL:HDL ratio (Figure 1).¹

Key mechanisms include HMG-CoA reductase inhibition, reduction of apolipoprotein-B100 secretion and modulation of hepatic LDL receptors.^{2,3} Specifically, the polymethoxyflavones tangeretin and nobilletin, suppress the hepatic secretion of ApoB and increase LDL receptor synthesis.^{4,2}

Tocotrienols inhibit the production of HMG-CoA reductase but support endogenous CoQ10 production via induction of the enzyme geranylgeranyl pyrophosphate (GGPP)². *In vitro* research shows an 80% inhibition of HMG-CoA reductase by decreasing transcription efficiency and enhancing degradation, unlike most HMG-CoA reductase inhibitors which block the mevalonate pathway by up to 99%.⁵

*From sustainably sourced palm.



Roza Jm, et al. *Alternative Therapies*. Nov/Dec 2007. Vol.13, No. 6.

Figure 1: Citrus Bioflavonoids and Tocotrienol Combination Impact Cholesterol in a Clinical Trial with 120 Subjects.

Free from corn, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, starches and salt. Free from artificial colours and flavours.



MetaPure EPA/DHA Capsules

Highly Purified and Concentrated Fish Oil.

Contents: 60 capsules (15 days), 120 capsules (30 days), 240 capsules (60 days)

Order Code: MP60C (60 capsules), MP120C (120 capsules), MP240C (240 capsules)

Storage: Store below 30°C

In healthy people, MetaPure EPA/DHA Capsules have been shown to or may:

- High strength, purified fish oil.
- Temporarily relieve the pain and inflammation from mild arthritis and improve mood and cognition.^{1,2}
- Maintain healthy triglyceride levels and cardiovascular function.^{2,3}
- Convenient capsule form for improved compliance plus Citrus Berry flavour to reduce fishy aftertaste.
- Enteric coated option for those with severe reflux.

Each capsule contains:

Concentrated fish Omega-3 triglycerides	1 g
Equivalent Eicosapentaenoic acid (EPA)	500 mg
Equivalent Docosahexaenoic acid (DHA)	200 mg

Directions: Adults: Take 2 capsules twice daily with meals.

To assist in the maintenance of cardiovascular health: Take 1 capsule daily with meals.



MetaPure EPA/DHA Liquid

Highly Purified and Concentrated Fish Oil.

Contents: 100 mL (23 days), 200 mL (47 days), 500 mL (119 days) oral liquid Citrus Berry flavour

Order Code: MP100L (100 mL), MP200L (200 mL), MP500L (500 mL)

Storage: Store below 30°C. After opening store at 2°C to 8°C. (Refrigerate. Do not freeze.)

In healthy people, MetaPure EPA/DHA Liquid has been shown to or may:

- High strength, purified fish oil.
- Temporarily relieve the pain and inflammation from mild arthritis and improve mood and cognition.¹
- Maintain healthy triglyceride levels and cardiovascular function.^{2,3}
- Easy, once a day prescribing and pleasant Citrus Berry flavour for improved compliance.

Each dose (4.2 mL) contains:

Concentrated fish Omega-3 triglycerides	4 g
Equivalent Eicosapentaenoic acid (EPA)	2 g
Equivalent Docosahexaenoic acid (DHA)	800 mg

Directions: Adults: Take 4.2 mL daily with meals.

MetaPure EPA/DHA Capsules may be considered to assist with the maintenance of cardiovascular health.

Clinical Benefits:

A meta-analysis of 17 randomised, controlled trials assessed the effectiveness of EPA and DHA in relieving joint pain and inflammation:

The results reported a significant reduction in joint pain intensity, joint swelling, morning stiffness and the number of painful and/or tender joints at a dose of 2.7 grams per day.¹ EPA and DHA exert anti-inflammatory and pain relieving actions via the following mechanisms:

- Suppression of COX-2 expression and the inflammatory cytokines interleukin (IL)-1 alpha and tumour necrosis factor (TNF)-alpha.⁵
- Inhibition of Leukotriene B₄ (LTB₄) and reduced serum C-reactive protein levels shown in *in vitro* and clinical trials.^{6,7,8}

2.6 grams of EPA and DHA has been shown, in a randomised, placebo controlled study of 138 healthy males, to assist in the maintenance of triglycerides within the normal range. The study reported a significant difference in triglyceride levels by 32% in the group taking 2.6 g of EPA and DHA. The study indicated that there was a direct correlation between increased dosage and improved results.²

A randomised, double blind, placebo controlled trial measured the mood and cognitive effects of fish oil: After 35 days, 2.4 grams of EPA and DHA was associated with an improvement in brain functions associated with attention, particularly those involving the cortical processing. There was also a significant improvement in mood states including anger, anxiety, fatigue and confusion.⁴

High quality, rigorously tested fish oil: Metagenics Fish Oils are sourced from small, cold water, pelagic fish using eco-fishing practices and are Friends of the Sea certified. Manufacturing of fish oil in Metagenics Brisbane-based TGA-approved manufacturing facility controls the environment to ensure a clean, concentrated, fresh, rigorously tested fish oil product. Extensive testing, externally and on-site, confirms contaminants (i.e. heavy metals, pesticides and solvents) fall well below Australian allowable levels.

View further details here:

Metagenics Institute



Please contact Metagenics Clinical Support for a list of phthalates, pesticides, heavy metals, environmental and oxidation markers tested.

Free from corn, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein, starches and salt. Contains fish.

- ✓ Non-GMO
- ✓ Non-irradiated
- ✓ Purification of 200+ pesticides
- ✓ Purified from heavy metals
- ✓ Removal of environmental contaminants
- ✓ Protected against oxidation
- ✓ Sustainable
- ✓ Clean
- ✓ Concentrated
- ✓ Fresh
- ✓ Therapeutic
- ✓ Purified to remove plasticisers (phthalates)
- ✓ Tested to confirm plasticisers are below detectable limit*
- ✓ Molecularly distilled
- ✓ Maintained in natural triglyceride form

Metagenics EPA/DHA: Delivering Industry Leading High Quality Standards and Processes.



Free from corn, dairy protein, lactose, eggs, gluten, wheat, yeast, soy protein, starches and salt. Free from artificial colours, flavours and preservatives. Contains fish.



Ultra Flora MetaControl

Advanced Probiotic Combination to Shape a Beneficial Microbiome for Wellbeing.

Contents: 60 capsules (VegeCaps) (60 days)

Order Code: UPMC

Storage: Store at 2°C to 8°C (Refrigerate. Do not freeze.)

- Provides metabolic benefits, including reduced body mass index (BMI), reduction in total cholesterol and low density lipoprotein (LDL).^{1*}
- Improves weight management, including total and abdominal fat mass, waist circumference and reduced energy intake.²

Each capsule contains:

24 billion live probiotic organisms:

<i>Bifidobacterium animalis ssp lactis</i> (HN019™)	14 billion CFU (organisms)
<i>Bifidobacterium animalis ssp lactis</i> (B-420™)	10 billion CFU (organisms)

Directions for use: Adults: Take 1 capsule daily.

Clinical Benefits:

Recent microbiome research has established a potential correlation between body weight and the microbiome. DNA analysis has shown that obese subjects may have a different microbiome composition to lean subjects. Gut bacterial composition is able to influence how energy is stored, as well as influence glycaemic control and satiety hormones. Specific probiotics can be a useful adjunct to dietary programs to control weight, metabolic markers and body composition.⁶

Weight control and body composition: *Bifidobacterium animalis ssp lactis* (B-420™) has a growing body of human and animal research, including a 2016 clinical trial. A 6 month study of 225 non-dieting, overweight people (predominantly women aged 40+) took 10 billion CFU B-420™ daily (with or without dietary fibre) or placebo. Both B-420™ groups showed significant improvements in fat mass, abdominal fat, waist circumference and lean muscle mass, as well as an overall reduction in calorie consumption.⁷ Pre-clinical animal and *in vitro* research on B-420™ has demonstrated reduced weight gain, improved glycaemic response,^{8,9} reduced zonulin levels (a marker of intestinal permeability),¹⁰ improved tight junction integrity, and protection against *E. coli*-induced damage; decreasing gut inflammation and the consequential impairment in insulin sensitivity.^{11,12}

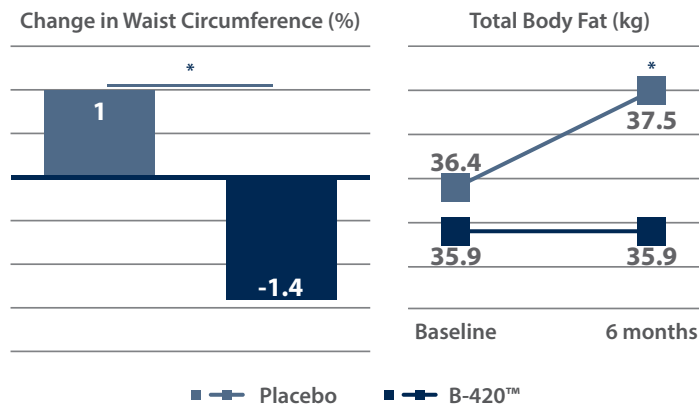


Figure 1: B-420™ – Beneficial Effect on Body Composition.

Cardiometabolic markers can also be influenced by probiotics. A 2016 study on 51 adults with metabolic syndrome showed that *Bifidobacterium animalis ssp lactis* (HN019™) reduced BMI, total cholesterol (TC) and low density lipoprotein (LDL).^{13*} The proposed mechanism is associated with prevention of cholesterol absorption by the intestinal tract into the blood stream, by aiding the assimilation of cholesterol during bacterial multiplication and cholesterol binding, and to improve liver metabolism through increased short chain fatty acid (SCFA) production, inhibiting HMG Co-A reductase.¹⁴ Mechanistically, it has been shown to reduce proinflammatory cytokines TNF-α and IL-6, which are associated with the development of obesity.¹⁵

		TC (mmol/L)	LDL (mmol/L)
Placebo	Baseline	11.1	6.5
	Day 45	11.4	6.4
	Change	+0.3	-0.1
HN019™	Baseline	11.6	7.1
	Day 45	10.8	6.1
	Change	-0.8	-1

*27.2 Billion CFU daily of HN019™ equivalent to two capsules.

Figure 2: Reduction in Total Cholesterol (TC) and LDL Cholesterol (LDL) with HN019™ Supplementation.¹⁶

Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts, soy protein and salt. Free from artificial colours, flavours and preservatives.



Lipoic Acid 600

High Strength, Convenient Dose for Healthy Antioxidant Function.

Contents: 60 tablets (60 days)

Order Code: LIPA

Storage: Store below 30°C

- Promotes healthy carbohydrate metabolism and glucose transport, and maintain healthy capillaries.^{1,2,3}
- Protects mitochondria against free radical damage, supporting cellular energy production.^{1,4}
- Supports glutathione production and liver phase II (conjugation) detoxification.⁵
- High strength, researched 600 mg per tablet; convenient once per day dose.

Each tablet contains:

Alpha lipoic acid 600 mg

Directions for use: Adults: Take 1 tablet daily with food.

Clinical Benefits:

Lipoic acid is an essential component in the conversion of pyruvate to acetyl CoA. It is vital to the correct functioning of the Krebs Cycle and for normal, healthy carbohydrate metabolism.⁶

Glucose maintenance: Lipoic acid is required for the regulation of glucose transport and cellular glucose uptake.^{2,1} It also regulates the impact glucose has upon blood vessels and maintains healthy capillaries by supporting nitric oxide-mediated vasodilation.^{2,1,3}

Potent antioxidant: A hydrophilic and lipophilic antioxidant, lipoic acid is also able to regenerate other antioxidants.¹ It provides potent intracellular antioxidant protection to key tissues, including liver cells, as well as protecting the mitochondria against free radical damage.^{1,7}

Heavy metal chelation and liver detoxification: Lipoic acid supports healthy liver detoxification by supporting glutathione production through transcription factor Nrf2, and via its antioxidant activity in chelating heavy metals.^{8,3} Lipoic acid contributes its thiol group to detoxify metals, including cadmium, copper and mercury, which subsequently improves the cell membrane integrity.³ In addition, lipoic acid induces several phase II detoxification enzymes.³

Real time stability studies have been conducted to ensure labelled potency through to expiry.

Free from animal products, corn, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein, starches and salt. Free from artificial colours, flavours and preservatives.



Hemagenics Iron Advanced

Enhanced Bioavailability, High Potency Iron with Active B12 and 5-MTHF.

Contents: 30 capsules (VegeCaps) (30 days)

Order Code: HIA

Storage: Store below 30°C

- Assists normal red blood cell production¹
- Provides active B12, 5-MTHF and 24 mg of highly bioavailable iron bisglycinate (Meta Fe®).
- Vegetable capsule suitable for vegetarians and vegans. Also suitable for pregnancy.

Each capsule contains:

Iron amino acid chelate (Meta Fe® – Iron bisglycinate)	120 mg
Equivalent Iron	24 mg
Calcium ascorbate dihydrate	100 mg
Equivalent Ascorbic acid	80 mg
Mecobalamin (Co-methylcobalamin)	500 micrograms
Pyridoxine hydrochloride (Vitamin B6)	5 mg
Levomefolate calcium	216 micrograms
Equivalent Levomefolic acid (5-Methyltetrahydrofolate)	200 micrograms

Directions for use: Adults: Take 1 capsule daily with food.

Clinical Benefits:

Ideal for vegetarians and vegans: Vegetarians and vegans may require additional iron due to their dietary choices. Hemagenics Iron Advanced is formulated with a vegetable capsule to help meet the needs of vegetarian and vegan clients with a highly bioavailable form of iron.⁶ Iron bisglycinate (Meta Fe®) has been shown to remain intact for absorption despite changes in acidity and the presence of food ligands such as phytates in the gut.⁷

Highly absorbable form of iron: Iron bisglycinate (Meta Fe®) is covalently bound to two molecules of the smallest amino acid (glycine), allowing absorption through the gut mucosa via the efficient amino acid uptake pathways. Owing to iron bisglycinate's (Meta Fe®) facilitated absorption through the gut mucosa, there is no dissociation in the digestive tract, minimising the side effects common amongst other forms of iron.²

Normal red blood cell production: Adequate intake of iron, vitamin B12, and vitamin B6 are required for normal red blood cell production. Hemagenics Iron Advanced offers a comprehensive formula supplying high potency active vitamin B12 and 5-MTHF.

Free from animal products, dairy protein, lactose, eggs, gluten, wheat, nuts, yeast, soy protein and salt. Free from artificial colours, flavours and preservatives.

Clinical Tools and Resources

All clinical tools and resources are available on  Metagenics Institute™

Visit metagenicsinstitute.com.au or metagenicsinstitute.co.nz and you will find a wealth of information readily available, to assist you in your practice.



Clinical Tools



Technical Data



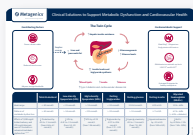
Treatment Protocols



Health Appraisal
Questionnaire



Cardiovascular Risk
Assesment Questionnaire



Clinical Solutions to Support Metabolic Dysfunction
and Cardiovascular Health Infographic

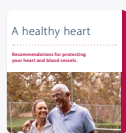


Evaluating Metabolic and Cardiovascular Disease
(CVD) Risk: Pathology and Assessment Guide

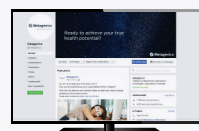
Available to order through your Metagenics Territory Manager.



Patient Resources



A Healthy Heart
Patient Brochure
(Pack of 15)



Public Facebook Page
facebook.com/metagenics

Available to order through your Metagenics Territory Manager.



Education



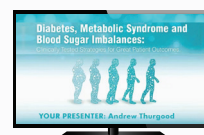
Reframing Metabolic Health
Webinar



Cardiovascular Disease
Seminar



Methylation: Putting
New Science into Clinical
Context Seminar



Diabetes, Metabolic
Syndrome and Blood Sugar
Imbalances: Clinically Tested
Strategies for Great Patient
Outcomes Seminar



Metagenics Institute
Podcast



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Metagenics Clinical Support

Delivering Practitioner to Practitioner support and access to an industry leading Clinical team with 202 years of combined clinical experience. Available to help save you time and support your business and patient needs.

- Clinical support (i.e. treatment plans/product prescriptions/test results and interpretation/contraindications);
- Writing resources (technical/patient/digital tools);
- Education;
- Researching cases (providing information and evidence to support your research/patient treatment needs).

Our Clinical Support team can be reached on:

AUSTRALIA

1800 777 648
8:00 am – 5:00 pm AEST

NEW ZEALAND

0508 227 744
8:00 am – 5:00 pm



Cardiovascular and Metabolic Health Range Summary

	Product Highlights	Page		Product Highlights	Page
	CardioX <i>Magnesium and Active Bs for Cardiovascular Health.</i> • 300 mg Meta Mag® Magnesium • 3 g Taurine • Tropical or Banana Berry flavour • Fructose free option	4		MetaPure EPA/DHA Capsules <i>Highly Purified and Concentrated Fish Oil.</i> • 500 mg EPA • 200 mg DHA	8
	Resist-X Advanced <i>Supports Healthy Blood Glucose, Carbohydrate Metabolism and Liver Function.</i> • 1g Indian Barberry • 125 mg Milk Thistle • 138 micrograms Chromium Chloride Hexahydrate • 13 micrograms Chromium Picolinate	5		MetaPure EPA/DHA Liquid <i>Highly Purified and Concentrated Fish Oil.</i> • 2 g EPA • 800 mg DHA • Citrus Berry flavour	8
	SPM Active™ <i>Specialised Pro-Resolving Mediators.</i> • Contains standardised and concentrated SPMs	6		Ultra Flora MetaControl <i>Advanced Probiotic Combination to Shape a Beneficial Microbiome for Wellbeing.</i> • Bifidobacterium animalis ssp lactis (HN019™) • Bifidobacterium animalis ssp lactis (B-420™)	9
	Metagen Methyl-Active <i>Active B Vitamins Plus Serine for Healthy Methylation.</i> • 1000 micrograms activated Vitamin B12 • 500 micrograms 5-MTHF	6		Lipoic Acid 600 <i>High Strength, Convenient Dose Antioxidant Function.</i> • 600 mg Alpha lipoic acid	10
	Bio Q-Absorb 150 <i>Maximum Strength Coenzyme Q10 with Exclusive VESIsorb® Technology for Enhanced Absorption.</i> • 150 mg Coenzyme Q10 • VESIsorb® enhanced delivery system	7		Hemagenics Iron Advanced <i>Enhanced Bioavailability, High Potency Iron with Active B12 and 5-MTHF.</i> • 120 mg Meta Fe® Iron bisglycinate • 24 mg equivalent Iron • 200 micrograms 5-MTHF	10
	TocoCare <i>Citrus Bioflavonoids and Tocotrienols Complex.</i> • 270 mg Citrus Bioflavonoids extract • 18 mg Tocotrienols complex - palm*	7			

Meta Mag® is a registered trademark of Balchem Corp.

Lipinova™ SPM's is a trademark of SOLUTEX GC.



Patents: Australia/AU 2013259503
New Zealand/NZ 702325

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References available on request.

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