Start Heartily

START HEARTILY PROTEIN SHAKE

THE INGREDIENTS AND KEY BENEFITS

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Here is our detailed, evidence-based, white paper summarising the cardiovascular benefits of each ingredient listed, with a focus on heart muscle physiology, mitochondrial health, oxidative stress, inflammation, insulin resistance, and lipid metabolism.

Where available, links to relevant studies are included for further reference.

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The Start Heartily Protein Shake - Ingredients and Key Benefits

Pea Protein Isolate:

Protein plays a crucial role in heart health, aiding in muscle repair, promoting healthy blood pressure levels and supporting weight management. Research published in the Journal of the International Society of Sports Nutrition indicates that pea protein supplementation positively influences cardiovascular health markers, such as blood pressure and cholesterol levels (Tang et al., 2020).

Pea Protein houses about3 times more Arginine than Whey (an amino acid which gets converted to nitric oxide to enable better blood circulation and thereby reducing the cardiovascular risk). Lysine is an amino acid that converts into carnitine, a molecule
responsible for building energy and lowering cholesterol.

It also may not spike Insulin production to the same degree as Whey Protein does. This may have benefits in reducing the exposure to further insulin, for those people who may be hyper-insulinaemic, or insulin resistant at baseline.

Animal and plant-based proteins have different postprandial effects on energy expenditure, glycemia, insulinemia, and lipemia:A review of controlled clinical trials - PubMed

A Systematic Review of the Effects of Plant Compared with Animal Protein Sources on Features of Metabolic Syndrome - PubMed

- Exploring Health-Promoting Attributes of Plant Proteins as a Functional
Ingredient for the Food Sector: A Systematic Review of Human Interventional Studies - PubMed

- Changes in quantity plant-based protein intake on type 2 diabetes remission in coronary heart disease patients: from the CORDIOPREV study - PubMed

- Blood pressure lowering effect of a pea protein hydrolysate in hypertensive rats and humans - PubMed

- Dietary proteins improve endothelial function under fasting conditions but not in the postprandial state, with no effects on markers of low-grade inflammation - PubMed

Brown Rice Protein:

Offers potential benefits for heart health.A study publishedin the Journal of Nutritional Science and Vitaminology suggests that brown rice protein can help reduce factors associated with cardiovascular disease. Improving hepatic lipid profiles and reducing oxidative stress, ultimately contributing to improved cardiovascular health (Zhang et al., 2016). Furthermore, it again contains L-arginine, which is involved in nitric oxide synthesis, vasodilation and reducing BP.

- Targeting Nitric Oxide with Natural Derived Compounds as a Therapeutic Strategy in Vascular Diseases - PMC

- Effect of l-Arginine Supplementation on Blood Pressure in Adults: A Systematic Review and Dose-Response Meta-analysis of Randomized Clinical Trials - PubMed

- Lower weight gain and hepatic lipid content in hamsters fed high fat diets supplemented with white rice protein, brown rice protein, soy protein, and their hydrolysates - PubMed

.

Creatine Monohydrate:

- Creatine supplementation has been shown to improve vascular function in older adults, indicating potential benefits for cardiovascular health. LEARN MORE

Pyridoxine HCl (Vitamin B6):

- Vitamin B6 plays a role in reducing homocysteine levels, a known risk factor for cardiovascular diseases. LEARN MORE

Thiamine Hydrochloride (Vitamin B1):

- Thiamine treatment has been found to preserve cardiac function during ischemic events, likely through its effects on mitochondrial dynamics. LEARN MORE

Riboflavin (Vitamin B2):

- Riboflavin supplementation can lower homocysteine levels, particularly in individuals with certain genetic polymorphisms, thereby reducing cardiovascular risk. LEARN MORE

Calcium Pantothenate (Vitamin B5):

- Calcium pantothenate is involved in the synthesis of coenzyme A, which is important for heart muscle function.

- Impaired coenzyme A homeostasis in cardiac dysfunction and benefits of boosting coenzyme A production with vitamin B5 and its derivatives in the management of heart failure - PubMed

- Pantethine, a derivative of vitamin B5, favourably alters total, LDL and non-HDL cholesterol in low to moderate cardiovascular risk subjects eligible for statin therapy: a triple-blinded placebo and diet-controlled investigation - PubMed

Methylcobalamin (Vitamin B12):

- High-dose methylcobalamin supplementation has been effective in lowering homocysteine suggesting cardiovascular benefits and reducing the risk of stroke.

- Methylcobalamin - PubMed

- Role of hyperhomocysteinemia in endothelial dysfunction and atherothrombotic disease - PubMed

- Problem in the Recent American Heart Association Guideline on Secondary Stroke Prevention: B Vitamins to Lower Homocysteine Do Prevent Stroke - PubMed

Calcium L-Methylfolate:

- L-methylfolate, in combination with other B vitamins, has been shown to reduce homocysteine and LDL-C levels, supporting cardiovascular health and preventing stroke. LEARN MORE

- Micronutrient Supplementation to Reduce Cardiovascular Risk - PubMed

- Supplemental Vitamins and Minerals for Cardiovascular Disease Prevention and Treatment: JACC Focus Seminar - PubMed

Soy Lecithin Powder:

Soy lecithin supplementation has demonstrated hypocholesterolemic and anti- atherogenic properties studies with dramatic reductions in lipid parameters. LEARN MORE

Influence of soy lecithin administration on hypercholesterolemia - PubMed

Sugar Beet Oligofructose Soluble Fibre Powder:

– Fructooligosaccharides (FOS) have been associated with decreased serum cholesterol and triglyceride levels, contributing to cardiovascular health. LEARN MORE

Coconut MCT (Medium-Chain Triglycerides):

- ·MCT oil does not significantly affect total cholesterol or LDL levels but does provide a quick source or energy for mitochondria LEARN MORE

·MCT can inhibit excess adiposity Medium-chain oil reduces fat mass and down- regulates expression of adipogenic genes in rats - PubMed

Ascorbic Acid (Vitamin C):

- Vitamin C supplementation has been shown to improve endothelial function in patients with essential hypertension. LEARN MORE

- Oxidative Stress and Inflammation: It is a powerful antioxidant that reduces oxidative stress and inflammation

Coenzyme Q10:

- Coenzyme Q10 supplementation has been associated with reduced mortality and hospitalisation rates in heart failure patients. LEARN MORE

- Mitochondrial Health: It is essential for mitochondrial energy production and has been shown to have impact on all cause mortality Micronutrient Supplementation to Reduce Cardiovascular Risk - PubMed

- Coenzyme Q10 supplementation reduces oxidative stress and increases antioxidant enzyme activity in patients with coronary artery disease -PubMed

- Effects of coenzyme Q10 supplementation (300 mg/day) on antioxidation and anti-inflammation in coronary artery disease patients during statins therapy: a randomized, placebo-controlled trial - PubMed

-Efficacy and Optimal Dose of Coenzyme Q10 Supplementation on Inflammation- Related Biomarkers: A GRADE-Assessed Systematic Review and Updated Meta- Analysis of Randomized Controlled Trials - PubMed

- Effectiveness of Coenzyme Q10 Supplementation in Statin-Induced Myopathy: A Systematic Review - PubMed

Magnesium Bisglycinate:

- **Heart Health:** Magnesium supplementation has been linked to reductions in blood pressure, supporting cardiovascular health. LEARN MORE

- Micronutrient Supplementation to Reduce Cardiovascular Risk - PubMed

- More recently here in 2025 - Non-prescription Magnesium Supplement Use and Risk of Heart Failure in Patients With Diabetes: A Target Trial Emulation - PubMed

Zinc Bisglycinate:

- **Heart Health:** Zinc plays a role in reducing oxidative stress and inflammation, factors that contribute to cardiovascular diseases. LEARN MORE

- Micronutrient Supplementation to Reduce Cardiovascular Risk - PubMed

Cholecalciferol (Vitamin D3):

- **Heart Health:** Vitamin D deficiency has been associated with increased cardiovascular risk; supplementation may support heart health. LEARN MORE

- Micronutrient Supplementation to Reduce Cardiovascular Risk - PubMed

Menaquinone-7 (Vitamin K2):

- Heart Health: Vitamin K2 helps regulate calcium deposition in arteries,
potentially reducing arterial stiffness and cardiovascular risk. LEARN MORE

- Vitamin K2 alleviates type 2 diabetes in rats by induction of osteocalcin gene expression - PubMed
·Vitamins K2 and D3 Improve Long COVID, Fungal Translocation, and Inflammation: Randomized Controlled Trial - PubMed VitK2 and D3 together reduced oxidized LDL, inflammatory markers sTNF-RI and sCD163 in the vitamin K2/D3 arm compared to the SOC arm ($p < 0.01$) over 24 weeks duration:

Sodium Selenite:

- Selenium supplementation has been linked to reduced oxidative stress and inflammation, supporting cardiovascular health. LEARN MORE

- Selenium supplementation lowers insulin resistance and markers of cardio- metabolic risk in patients with congestive heart failure: a randomised, double- blind, placebo-controlled trial - PubMed

- Binge drinking during the adolescence period causes oxidative damage-induced cardiometabolic disorders: A possible ameliorative approach with selenium supplementation - PubMed

L-Glycine and N-Acetyl L-Cysteine:

- Heart Health: Glycine and NAC have been shown to improve heart health by reducing inflammation and oxidative stress and supporting the mitochondrial function this can reduce MACE in diabetics.

- Supplementing Glycine and N-Acetylcysteine (GlyNAC) in Older Adults Improves Glutathione Deficiency, Oxidative Stress, Mitochondrial Dysfunction, Inflammation, Physical Function, and Aging Hallmarks: A Randomized Clinical Trial - PubMed

- GlyNAC (Glycine and N-Acetylcysteine) Supplementation Improves Impaired Mitochondrial Fuel Oxidation and Lowers Insulin Resistance in Patients with Type 2 Diabetes: Results of a Pilot Study - PubMed

- N-acetylcysteine therapy reduces major adverse cardiovascular events in patients with type 2 diabetes mellitus - PubMed

Cocoa Flavanols (20–22%Fat):

- Heart Health: Cocoa flavonoids have been associated with improved endothelial function and reduced blood pressure. LEARN MORE

- Potential implications of dose and diet for the effects of cocoa flavanols on cardiometabolic function - PubMed
·Effects of cocoa flavanols on risk factors for cardiovascular disease - PubMed
- Sustained benefits in vascular function through flavanol-containing cocoa in medicated diabetic patients a double-masked, randomized, controlled trial - PubMed

Acetyl L-Carnitine:

- Heart Health: ·Acetyl L-carnitine supports heart health by improving mitochondrial function and reducing oxidative stress. LEARN MORE

- Effects of L-carnitine supplementation on oxidative stress and antioxidant enzymes activities in patients with coronary artery disease: a randomized, placebo-controlled trial - PubMed
- Effects of L-carnitine supplementation on lipid profiles in patients with coronary artery disease - PubMed

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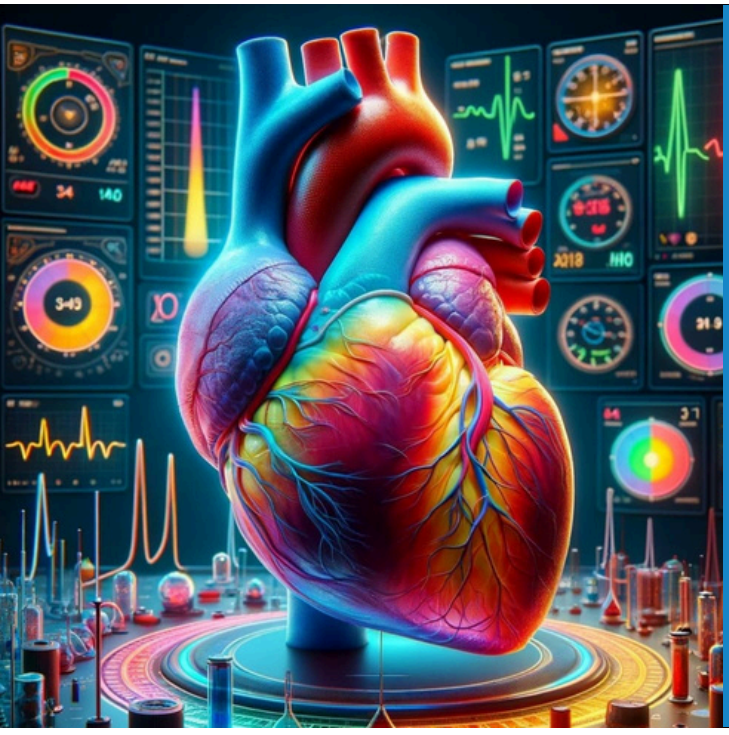
This comprehensive overview highlights the potential cardiovascular benefits of each ingredient, supported by the current scientific literature. For personalised advice, it's recommended to consult with Dr Scott W Murray directly as part of the Start Heartily Protocol.



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