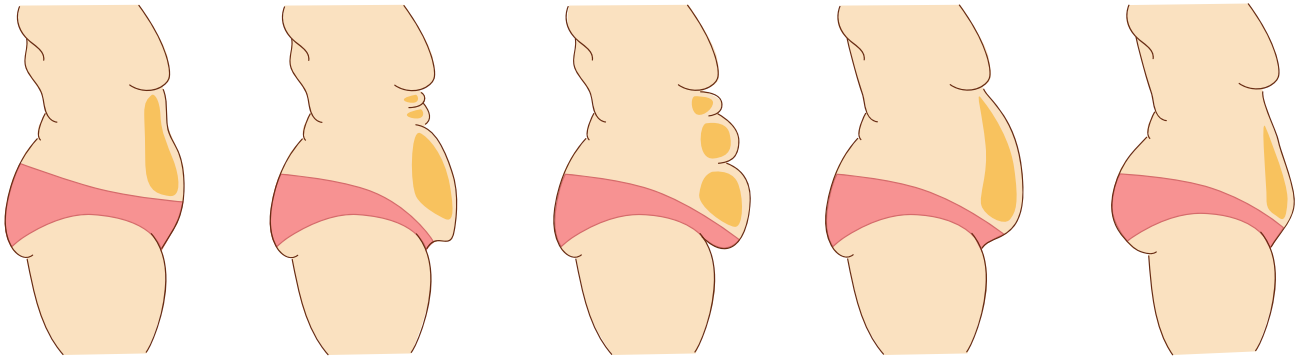
DR.VEGAN®

Supporting healthy weight

A holistic view on weight management and metabolic health support

Practitioner Paper • *For practitioner use only*

TYPES OF TUMMIES



Post-pregnancy belly

Menopausal hormonal belly

Common weight gain

Beer belly

Bloating

Perimenopausal women show measurable increases in waist size (central adiposity) even over relatively short periods.[1]

Hormone changes plus loss of lean mass contribute to a drop in how many calories the body burns at rest. If diet and physical activity stay the same, this energy gap leads to weight gain.[2]

Changes in physical activity (often decreasing), dietary habits, sleep disturbances, stress, etc. tend to exacerbate the tendency to gain weight.[3]

Oestrogen helps regulate fat distribution (favouring more peripheral / subcutaneous fat), promotes insulin sensitivity, and helps with energy balance. Once oestrogen declines, there is a shift toward visceral fat accumulation and less insulin sensitivity.[4]

Hormones that regulate appetite / energy expenditure (e.g. leptin, adiponectin) are affected. Some studies show changes in leptin and adiponectin levels during menopausal transition.[5]

Insulin resistance tends to increase, making it easier for the body to store fat and harder to lose fat.[6]

Factor	How it contributes to weight gain	How to manage it
Hormonal changes (decline in oestrogen)	Shifts fat storage to the abdomen, reduces metabolic rate	Balanced diet with protein and fibre, phytoestrogen-rich foods, regular exercise
Muscle loss (sarcopaenia)	Lowers resting metabolic rate	Strength training, adequate protein intake
Slower metabolism	Fewer calories burned at rest	Portion control, focus on nutrient-dense foods
Sleep disturbances	Poor sleep increases cravings and hunger hormones	Good sleep hygiene, relaxation techniques
Stress and cortisol	Promotes abdominal fat gain	Stress management (yoga, meditation, breathing)
Insulin resistance	Increased fat storage, especially visceral fat	Lower refined carbohydrates, balance blood sugar

Menopause-associated weight gain is driven by ovarian oestrogen loss, which alters adipose distribution and function, reduces muscle mass and energy expenditure, worsens insulin sensitivity, and interacts with sleep and vasomotor symptoms and behaviour, together promoting increased visceral adiposity and metabolic risk.[7]

Loss of oestrogen altered adipose distribution and adipocyte biology

Mechanism: Circulating 17β-oestradiol acts via ERα/ERβ in adipose tissue to regulate preadipocyte differentiation, lipolysis, lipogenesis and local inflammation. With menopause, systemic oestradiol falls and adipose aromatisation becomes more important; the balance of signalling shifts and promotes adipocyte hypertrophy, reduced subcutaneous (gluteofemoral) fat storage capacity and preferential accumulation of visceral adipose tissue.

Consequences: Increased visceral adipose tissue is metabolically active (proinflammatory cytokines, free fatty acid flux), raising cardiometabolic risk even if overall BMI change is modest.[7]

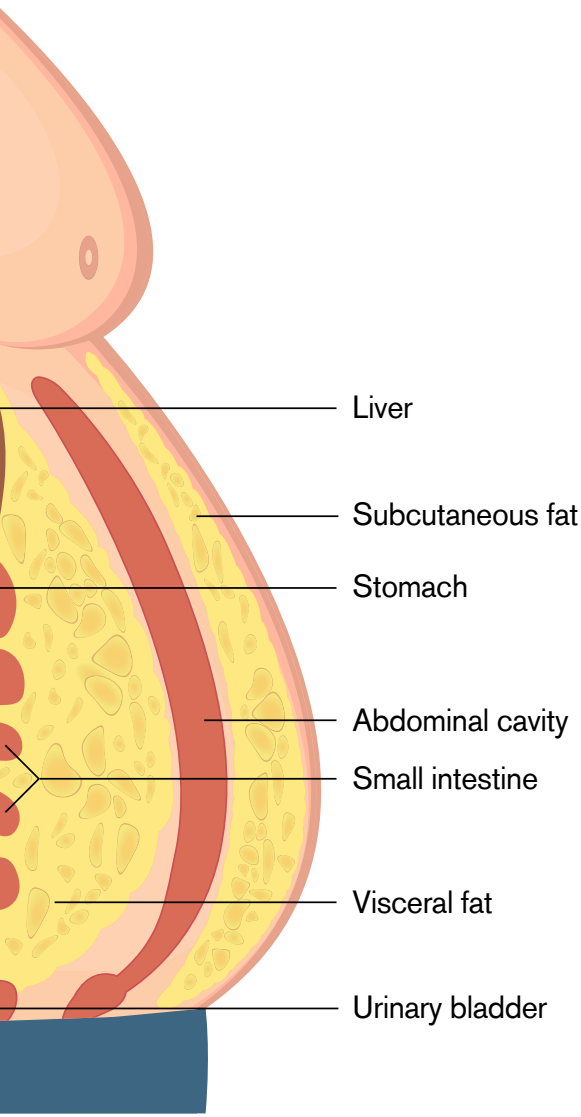
Reduced lean mass leads to lower resting energy expenditure

Mechanism: Oestradiol supports muscle mass and mitochondrial function. Menopausal ovarian failure accelerates loss of type II fibres and promotes sarcopaenic changes (reduced muscle protein synthesis, increased proteolysis), lowering resting energy expenditure and total daily energy expenditure. Even small declines in lean mass progressively reduce caloric needs and predispose to positive energy balance if intake / activity don't adjust.[8]

Insulin resistance, hepatic steatosis and dysregulated lipid metabolism

Mechanism: Oestrogen improves insulin signalling (PI3K/Akt pathway effects, GLUT4 expression) and hepatic lipid handling. Declining oestrogen is associated with increased peripheral and hepatic insulin resistance, higher fasting insulin and increased de novo lipogenesis in the liver. This promotes visceral fat accrual and non-alcoholic fatty liver disease (NAFLD/MASLD) risk.[9]

BODY FAT



Appetite, macronutrient handling and the protein / leverage effects

Mechanism: Menopause may alter appetite regulation (hypothalamic leptin / ghrelin sensitivity, reward circuitry), and increased protein catabolism or altered satiety signalling can change food choices and portion sizes. Some recent work suggests altered protein turnover during the transition may drive increased energy intake to meet protein needs (the 'protein leverage' hypothesis), contributing to weight gain.[10]

Vasomotor symptoms, sleep disturbance and reduced activity

Mechanism: Hot flashes and night sweats and the resultant broken sleep increase sympathetic tone and cortisol, impair glucose regulation, increase appetite and cravings, and reduce daytime activity. Over time, these factors favour weight gain and central fat deposition. Studies show that vasomotor symptom frequency and persistence correlate with later weight gain.[11]

Adipose tissue dysfunction low-grade inflammation

Mechanism: Postmenopausal subcutaneous adipose tissue and visceral adipose tissue show increased immune cell infiltration, hypoxia, fibrosis and proinflammatory cytokine expression; this adipose dysfunction amplifies insulin resistance and metabolic risk beyond what body weight alone would predict.[12]

Clinical implications

Mechanism: Don't assume BMI alone. Measure and record waist circumference and consider a body composition scan if available to detect visceral fat gain and lean mass loss. Screen for metabolic syndrome (fasting glucose/HbA1c, lipids, LFTs).[13]

KEY CONSEQUENCES OF INCREASED ABDOMINAL FAT

- **Metabolic consequences:**

  Insulin resistance and type 2 diabetes: VAT releases free fatty acids directly into the portal circulation, leading to hepatic insulin resistance, impaired glucose metabolism and increased risk of type 2 diabetes.
  Dyslipidaemia: Higher triglycerides, reduced HDL and more small dense LDL leading to an atherogenic lipid profile.

  Non-alcoholic fatty liver disease (NAFLD/MASLD): Excess fat deposition in the liver due to increased free fatty acid flux.

- **Cardiovascular consequences:**

  Hypertension: VAT increases activation of the renin-angiotensin system, raising blood pressure.
  Atherosclerosis and coronary artery disease: Pro-inflammatory cytokines (IL-6, TNF-α) and adipokines (resistin, leptin dysregulation) promote vascular inflammation and plaque formation.
  Stroke and heart failure: Abdominal obesity is an independent predictor of cerebrovascular and heart failure risk.

- **Hormonal and inflammatory consequences:**

  Low-grade chronic inflammation: VAT secretes cytokines and recruits immune cells, driving systemic inflammation.
  Altered adipokine secretion: Lower adiponectin (protective) and increased leptin (resistance develops), worsening insulin resistance and inflammation.
  Pro-thrombotic state: Elevated plasminogen activator inhibitor-1 (PAI-1), increasing clotting risk.

- **Cancer risk:**

  Increased risk of postmenopausal breast cancer, colorectal cancer and endometrial cancer, partly via oestrogen production from VAT aromatase and chronic inflammation.

- **Musculoskeletal and quality of life consequences:**

  Sarcopaenic obesity: Loss of lean mass combined with visceral fat increases frailty and reduces physical function.
  Joint problems: Increased load on knees / hips, higher osteoarthritis risk.
  Sleep apnoea: Abdominal fat worsens airway collapsibility and sleep quality.

DIET AND LIFESTYLE TIPS FOR CLIENTS

Focus on protein

The decline in oestrogen accelerates sarcopaenia. Protein supports muscle protein synthesis and helps maintain resting energy expenditure. Aim for 1.0–1.2 g/kg/day, spread evenly across meals (20–30 g/meal).

Focus on fibre and whole foods

Fibre improves satiety, supports gut microbiota, blunts insulin spikes and reduces visceral fat accumulation risk.

Manage carbohydrates to reduce insulin resistance

Menopause increases central adiposity and insulin resistance. Limit refined carbohydrates; choose low-GI carbohydrates (quinoa, lentils, barley, sweet potatoes). Pair carbs with protein and fibre to reduce glycaemic load.

Consume healthy fats

Omega 3s reduce inflammation and may help with fat distribution. Include walnuts, chia, flaxseed and algae oil and avoid trans fats.

Alcohol moderation

Alcohol increases abdominal fat and disrupts sleep. Encourage reduction; ideally less than 1–2 drinks per week.

PHYSICAL ACTIVITY TIPS FOR CLIENTS

Strength (resistance) training

Preserves and increases lean mass and higher basal metabolic rate as well as better glucose disposal. Try 2–3 sessions per week, focusing on large muscle groups (legs, back, chest).

Aerobic exercise

Reduces visceral fat, improves cardiovascular fitness and supports insulin sensitivity. Try at least 150 min/week of brisk walking, cycling, swimming, etc.

cNEAT (non-exercise activity thermogenesis)

Everyday activity contributes more to energy expenditure than gym time for many patients. Walk to meetings, take stairs, take standing breaks and gardening.

Sleep and stress management

Poor sleep increases ghrelin and decreases leptin, leading to more hunger and cravings. Consistent schedule, dark cool room, reduced caffeine and alcohol and limited screen use before bed.

Stress management

Chronic stress leads to increased cortisol and abdominal fat accumulation. Stress-relieving activities include yoga, meditation, CBT, breathing exercises and nature exposure, all of which help.

Weight Management Support

Weight Management Support is expertly formulated to support a normal BMI through a combination of clinically backed ingredients. It features Metabolaid®, a patented hibiscus extract studied in eight clinical trials, which helps the body maintain a balanced metabolism.

Green Tea is included, as some studies have shown it to encourage fat breakdown. Chromium supports the maintenance of normal blood glucose levels, an essential factor in effective weight management. Together, these ingredients work synergistically to support healthy weight management as part of a balanced diet and lifestyle.

	Amount per Capsule	EC NRV %*
Metabolaid® (Lemon verbena leaf extract, Hibiscus flower extract)	500mg	**
Green Tea Extract (95% polyphenols), Providing 3,000mg Green Tea	100mg	**
Chromium	200mcg	500%

* NRV - Nutrient Reference Value
** No NRV Established

Pairs well with

Vegan Omega 3

Fibre Complex

MenoFriend®

PeriMenoFriend®

Ingredients

Metabolaid®
(Lemon verbena leaf extract,
Hibiscus flower extract),
Green Tea Extract,
Chromium (Picolinate),
Capsule Shell
(Hydroxypropyl Methylcellulose).

Free from

Added Sugar,
Starch,
Sweeteners,
Gluten,
Wheat,
Soya,
Lactose,
Dairy,
Artificial Flavours,
Colours and
Preservatives.

Directions

- Take daily for at least 2 months.
- Take 1 capsule per day 15-30 minutes before breakfast or your lunchtime meal.

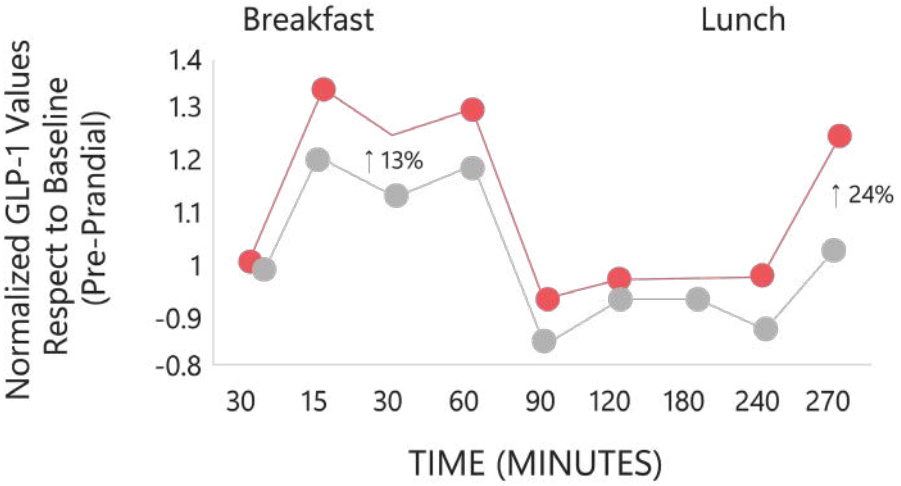
KEY INGREDIENTS IN WEIGHT MANAGEMENT SUPPORT

Metabolaid® (Lemon verbena and Hibiscus sabdariffa extract blend)

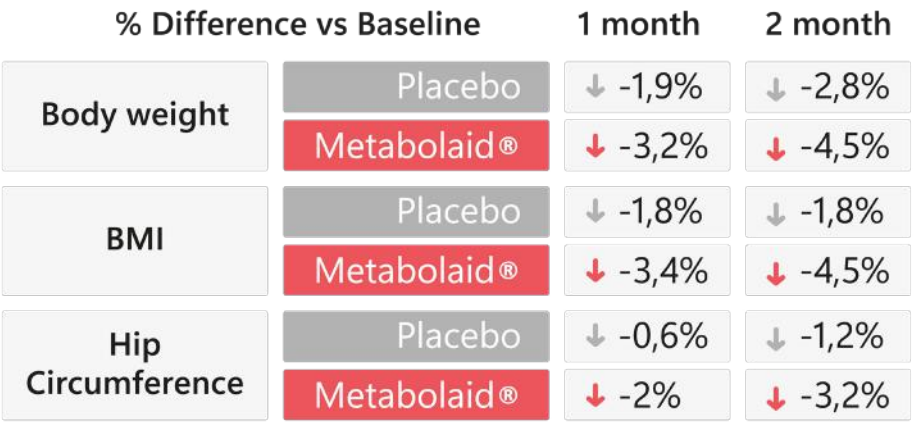
Metabolaid® activates AMPK pathways in adipose tissue, muscles and liver, which enhances mitochondrial activity, increases energy consumption and promotes the use of stored energy.

Appetite regulation: Increases anorexigenic hormones (e.g. GLP-1), decreases orexigenic hormones (e.g. ghrelin). This can lead to reduced calorie intake.[14] GLP-1 is a key hormone for managing blood sugar and enhancing fullness, which helps control appetite and support weight management. Metabolaid® delivers fast action, boosting GLP-1 secretion by 13% compared to placebo just 15 minutes after intake, helping you feel fuller, faster. Over time, this increase in GLP-1 continues to rise, reaching more than 60% after two months, providing sustained support for effective weight management.[26]

Clinical study results Metabolaid® without diet (grey)



Activation of AMPK (AMP-activated protein kinase): Enhances energy expenditure and fat oxidation and improves glucose metabolism. Metabolaid® in animal studies led to increased AMPK phosphorylation, decreased adipogenesis and increased thermogenesis (e.g. increased UCP1/2 mRNA in adipose).[15]

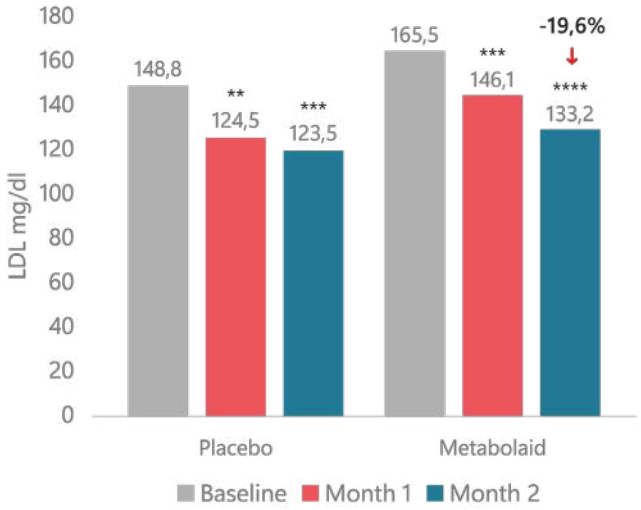


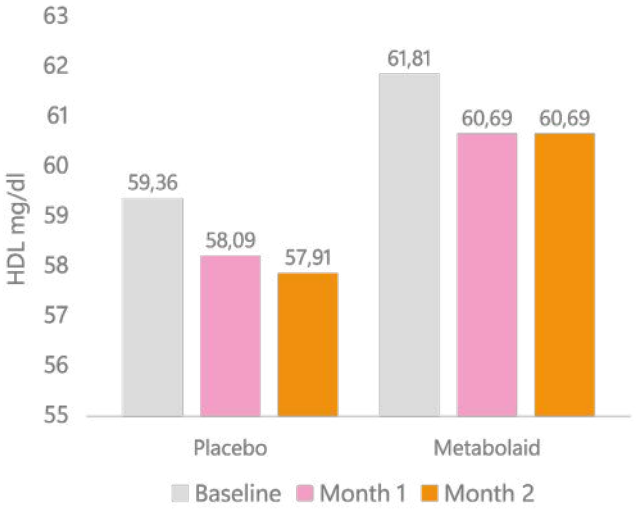
Anti-inflammatory effects: Reduction in inflammatory cytokines (TNF-α, IL-6) in animal models. This may help counteract the low-grade inflammation seen with visceral fat accumulation in menopause.[16]

Body fat (especially abdominal) reduction: In clinical human trials, observed reductions in body fat and waist circumference, independent of diet / exercise in some studies.[17] A trial of 300 mg/day Metabolaid® (lemon verbena and hibiscus polyphenols) for three months in overweight adults (not specifically menopausal) resulted in a -3.4% reduction in body weight, with most weight loss from fat mass and notable abdominal fat reduction. No significant muscle or water loss.[17] In another RCT, Hibiscus and Lemon verbena polyphenols were shown to modulate appetite-related biomarkers in overweight subjects. Weight, skinfolds and arm and abdominal circumferences improved; there were increases in GLP-1, decreases in ghrelin; better subjective satiety.[18]

Improves metabolic health: Metabolaid® increases Bifidobacterium and Faecalibacterium, supporting better insulin sensitivity and promoting a healthy microbiome balance. Metabolaid® maintains Akkermansia and Lactobacillus, contributing to reduced body fat and effective weight management. Metabolaid® increases Prevotella, promoting a healthier and more balanced gut environment. Metabolaid® balances key bacteria like Blautia and Faecalibacterium, fostering efficient metabolism and positive gut health. In a randomised, double-blind, placebo-controlled trial, participants taking a dietary supplement containing 500 mg of Metabolaid® daily, as part of an equilibrated isocaloric diet, showed notable changes over 2 months: LDL levels decreased by 19.6%. HDL levels were maintained, suggesting that keeping these levels stable is beneficial for cardiovascular health.

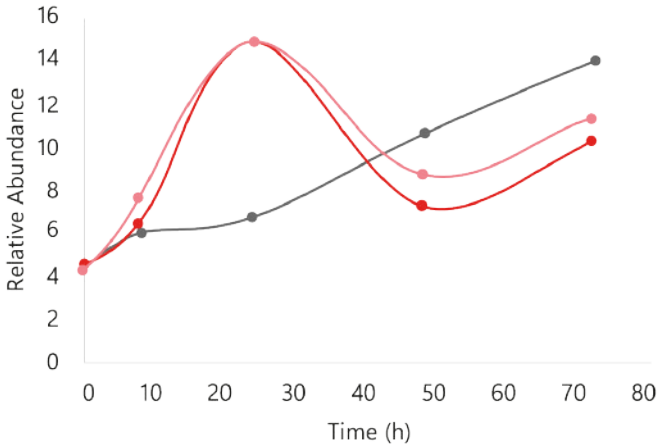
Changes in Cholesterol Levels in Overweight Individuals: A Comparative Study of Placebo vs Metabolaid®



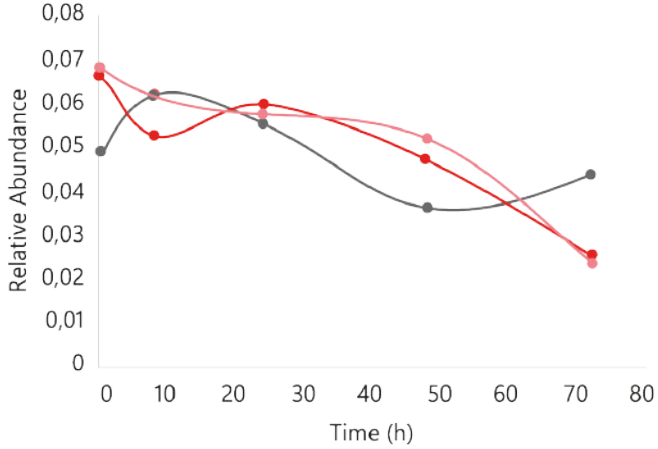


*Intra-group statiscal analysis at the endpoint compared to the baseline is reported as follows: **p <0.01; ***p <0.001; ****p <0.0001*

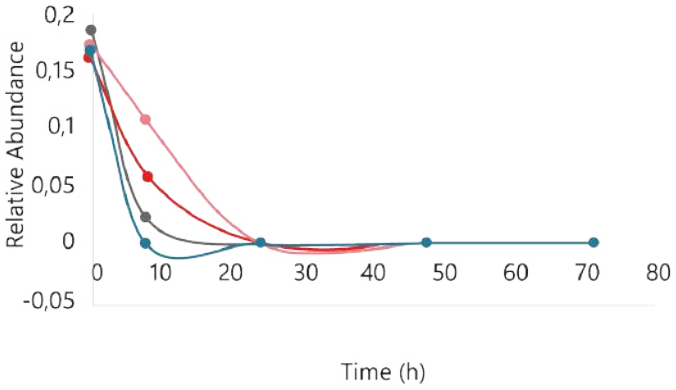
Bifidobacterium: Regulation of Metabolism and Insulin Sensitivity



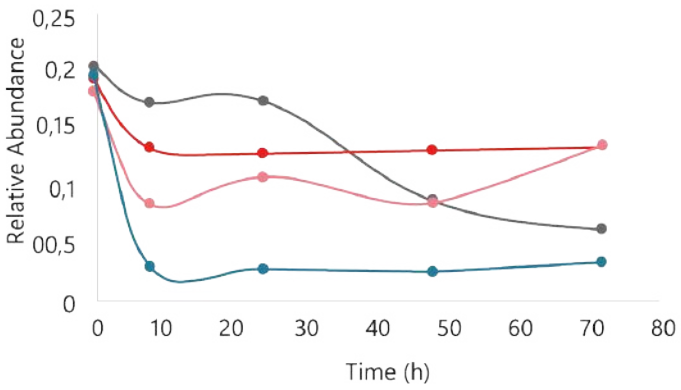
Lactobacillus: Maintaining Intestinal Health and Metabolic Balance



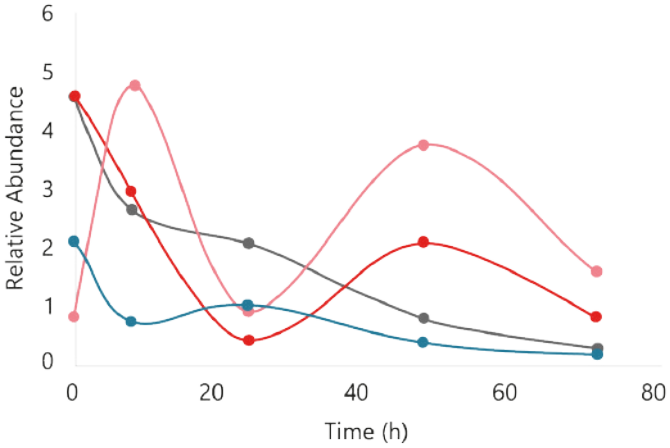
Prevotella: Enhancement of Satiety and Metabolic Regulation



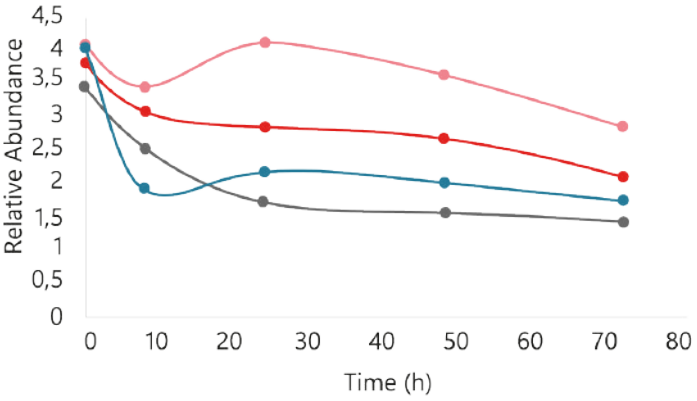
Akkermansia: Regulation of Metabolism and Insulin Sensitivity



Faecalibacterium: Regulation of Metabolism and Insulin Sensitivity



Blautia: Regulation of Short-Chain Fatty Acid Production and Energy Metabolism



Green Tea Extract (EGCG / catechins)

Increased fat oxidation and energy expenditure: Catechins, especially epigallocatechin gallate (EGCG), may increase thermogenesis, stimulate SNS (sympathetic nervous system), raise resting energy expenditure and shift respiratory quotient toward fat oxidation.[19]

Effect on appetite and hormonal regulators: Modulates hormones such as adiponectin and ghrelin; may reduce hunger and improve insulin sensitivity.[20]

Lipid metabolism improvements: Lowering LDL, total cholesterol; possible effects on hepatic fat.[19] A 60-day randomised, double-blind, placebo-controlled trial in overweight or class I obese postmenopausal sedentary women: Green Tea extract improved parameters, including reduced waist circumference, improved fat oxidation, increased resting energy expenditure, lower insulin, HOMA, lower CRP.[19]

Chromium

Improved insulin sensitivity: Chromium helps reduce hyperinsulinaemia, reduce lipogenesis and improve glucose disposal. This action reduces cravings or hunger induced by high postprandial glucose fluctuations, indirectly helping with calorie control.

A meta-analysis of RCTs in overweight and obese individuals showed statistically significant reductions in body weight, including BMI and body fat percentage, versus a placebo.[21]

Another systematic review and meta-analysis of 11 studies found weight loss favouring Chromium over placebo.[22]

DRUG INTERACTIONS

Interaction Severity

Major	Ephedrine	Green Tea, when taken with this drug, may increase the risk for stimulant adverse effects.
	Metformin (Glucophage)	This drug may increase the risk of side effects from the caffeine in Green Tea.
	Chloroquine	*Hibiscus sabdariffa* reduces the level of this drug.
Moderate	5-Fluorouracil	High doses of Green Tea may increase the effects and side effects of 5-fluorouracil.
	Adenosine (Adenocard)	Green Tea might decrease the vasodilatory effects of adenosine.
	Anticoagulant / Antiplatelet Drugs	Green Tea may increase the risk of bleeding when taken with these drugs.
	Antidiabetes drugs	Green Tea may interfere with blood glucose control.
	Atorvastatin (Lipitor)	Green Tea reduces the effectiveness of this drug.
	Beta-Adrenergic Agonists	The caffeine in Green Tea may increase the cardiac inotropic effects of beta-agonists.
	Bortezomib (Velcade)	Green Tea interferes with the effects of this drug.
	Carbamazepine (Tegretol)	Green Tea may reduce the effects of this drug.
	Lithium Celiprolol (Celicard)	Green Tea may reduce the effects of this drug.
	Cimetidine (Tagamet)	This drug may increase the risk of side effects from caffeine in Green Tea.
	Clozapine (Clozaril)	Green Tea may increase the risk of side effects from this drug.
	Contraceptive Drugs	This drug may increase the risk of side effects from the caffeine in Green Tea.
	Cytochrome P450 1A2 (CYP1A2) Inhibitors	Moderate interaction. This drug may increase the risk of side effects from the caffeine in Green Tea.
	Dipyridamole (Persantine)	Green Tea may reduce the effects of this drug.

Interaction Severity

Moderate

Disulfiram (Antabuse)	This drug may increase the risk of side effects from the caffeine in Green Tea.
Diuretic Drugs	Green Tea may increase the risk of hypokalaemia when taken with this drug.
Oestrogens	These drugs may increase the risk of side effects from the caffeine in Green Tea.
Ethosuximide (Zarontin)	Green Tea may reduce the effects of this drug.
Felbamate (Felbatol)	Green Tea may reduce the effects of this drug.
Fexofenadine (Allegra)	Green Tea may decrease blood levels of this drug.
Fluconazole (Diflucan)	Green Tea may reduce the effects of this drug.
Flutamide (Eulexin)	Green Tea may reduce the effects of this drug.
Fluvoxamine (Luvox)	Green Tea may reduce the effects of this drug.
Hepatotoxic Drugs	Green Tea, when taken with these drugs, may increase the risk of hepatotoxicity.
Imatinib (Gleevec)	Green Tea may reduce the effects of this drug.
Lisinopril	Green Tea may reduce the effects of this drug.
Lithium	Stopping Green Tea abruptly may increase the adverse effects of this drug.
Monoamine Oxidase Inhibitors	Green Tea taken with this drug may increase the risk of a hypertensive crisis.
Nicardipine Ccardine	Green Tea may increase the risk of side effects from this drug.
Nintedanib (Ofev)	Green Tea may reduce the effects of this drug.
Organic Anion-transporting Polypeptide Substrates	Green Tea may reduce the effects of this drug.
Pentobarbital (Nembutal)	Green Tea may reduce the effects of this drug.
Phenobarbital (Luminal)	Green Tea may reduce the effects of this drug.
Phenylpropanolamine	Green Tea may increase the risk of hypertension when taken with this drug.

Interaction Severity

Moderate

Phenytoin (Dilantin)	Green Tea may reduce the effects of this drug.
Pioglitazone (Actos)	Green Tea may increase the effects of this drug.
Quinolone Antibiotics	Quinolone antibiotics may increase the side effects of caffeine found in Green Tea.
Riluzole (Rilutek)	Green Tea may increase the risk of side effects from this drug.
Rosuvastatin (Crestor)	Green Tea may increase the blood level of this drug.
Stimulant Drugs	Due to the caffeine in green tea, use with other stimulant drugs may increase the risk of adverse effects.
Theophylline	Green Tea may reduce the effects of this drug.
Verapamil (Calan, others)	Green Tea may increase the levels and adverse effects of both verapamil and caffeine
Warfarin (Coumadin)	Green Tea may increase the risk of bleeding if used with warfarin.
Antidiabetic Drugs	Chromium and *Hibiscus sabdariffa* interferes with these drugs and may increase the risk of hypoglycaemia.
Insulin	The use of Chromium alongside insulin may increase the risk of hypoglycaemia.
Levothyroxine (Synthroid)	Chromium may decrease the absorption of this drug.
Benzodiazepines	*Lemon verbena* may increase the risk of sedation and respiratory depression when taken with this drug.
Antidiabetes Drugs	Taking H*ibiscus sabdariffa* with antidiabetes drugs might increase the risk of hypoglycaemia.
Antihypertensive Drugs	*Hibiscus sabdariffa* may increase the risk of hypotension when taken with these drugs.
Diclofenac	*Hibiscus sabdariffa* may increase the level of adverse effects from this drug.
Losartan	*Hibiscus sabdariffa* may increase the level of this drug.
Simvastatin	*Hibiscus sabdariffa* may reduce the effects of this drug.

Interaction Severity

Minor

Methoxsalen (Oxsoralen)	This drug may increase the risk of side effects from the caffeine in Green Tea.
Mexiletine (Mexitil)	This drug may increase the risk of side effects from the caffeine in Green Tea.
Midazolam (Versed)	Green Tea may increase the risk of side effects from this drug.
Phenothiazines	This drug may increase the risk of side effects from the caffeine in Green Tea.
Terbinafine (Lamisil)	Green Tea may increase the risk of side effects from this drug.
Aspirin	Aspirin may increase Chromium absorption.
Nonsteroidal Anti-inflammatory Drugs	These drugs increase Chromium absorption.
Acetaminophen (Tylenol, Paracetamol)	*Hibiscus sabdariffa* may decrease the effects of this drug.

Drug-nutrient interactions have been taken from the Natural Medicines Database, October 2025. Please do your own due diligence before recommending this product to individuals taking medicines.

REFERENCES

1. *Fertil Steril. 2007 Dec;88(6):1603-8. doi: 10.1016/j.fertnstert.2007.01.039. Epub 2007 May 4.*
2. *Gynecol Endocrinol. 2022 Feb;38(2):99-104. doi: 10.1080/09513590.2021.2004395. Epub 2021 Dec 13.*
3. *Women's Health ReportsVol. 3, No. 1.*
4. *Gynecol Endocrinol. 2022 Feb;38(2):99-104. doi: 10.1080/09513590.2021.2004395. Epub 2021 Dec 13.*
5. *Aging Cell. Volume21, Issue6. June 2022. E13621.*
6. *Climacteric. 2012 Oct;15(5):419-29.*
7. *Front Endocrinol (Lausanne). 2022 May 26;13:889923.*
8. *Front. Endocrinol., 19 May 2021. Sec. Endocrinology of Aging. Volume 12 - 2021.*
9. *The American Journal of Pathology. Volume 191, Issue 9, September 2021, Pages 1490-1498.*
10. *BJOG. Volume130, Issue1. January 2023. Pages 4-10.*
11. *Menopause. 2023 Jun 13;30(7):709–716.*
12. *Sci Rep 11, 14750 (2021).*
13. *Sci Rep 11, 14750 (2021).*
14. *Food Funct. 2018 Jun 20;9(6):3173-3184.*
15. *Nutrients Volume 10 Issue 9.*
16. *Nutrients 2018, 10(9), 1204.*
17. *Appl. Sci. 2024, 14(9), 3882.*
18. *Food Funct. 2018 Jun 20;9(6):3173-3184.*
19. *Nutrients. 2022 Dec 7;14(24):5209.*
20. *Clin Nutr. 2016 Jun;35(3):592-9.*
21. *Clin Obes. 2019 Aug;9(4):e12313.*
22. *Obes Rev. 2013 Jun;14(6):496-507.*
23. *Scientific Reports volume. 9, Article number: 2999 (2019).*
24. *Randomized Controlled Trial.*
25. *Food Funct. 2018 Jun 20;9(6):3173-3184.*

DR.VEGAN® PRACTITIONER SCHEME

Sign up to receive our monthly newsletter packed with the latest updates, expert articles, cutting-edge research and more.

BENEFITS

Discount for your clients

Commission

Free products to try

Scan the QR code to sign up now


DR.VEGAN®
www.drvegan.com ▪ team@drvegan.com