



hermes consilium



portfolio.

clinically
supported
ingredients



LIPOCAL™

microcapsules

bioavailable and water dispersible micronized source of calcium, coated with lecithin, which increases calcium dispersibility and absorption.

- **supplier**
Lipofoods
- **product grade**
powder suitable for milk powder, dairy products, soy milk and wide range of dietary supplements including capsules, pills, chewables, drops, syrups, etc.
- **daily dose**
Recommended Daily Allowance (RDA) for calcium in the European Union is 800 mg
- **stability**
18 months shelf life
- **certificates**
Halal, Kosher



INDICATIONS
BONE HEALTH

advantages:

- improved dispersibility
- high calcium concentration
- more bioavailable than milk calcium
- **non-animal source of calcium**
suitable for vegetarians

mechanisms of action:

- **calcium is needed for normal growth** and development of bone in children
- **maintains normal bones** and teeth
- **contributes** to normal blood clotting
- **contributes** to normal energy-yielding metabolism
- **contributes** to normal muscle function
- **contributes** to normal neurotransmission
- **contributes** to the normal function of digestive enzymes
- **has a role in the process of cell division** and specialization



2 internal studies:

- **Lipocal™ study, 2004: Effects on intestinal absorption of calcium and bioavailability:**
 - Calcium bioavailability of soy yoghurt enriched with Lipocal™ is similar to that of cow's milk yoghurt
- **Wettability and dispersibility studies, 2014:**
 - Lipocal™ has high wettability and high dispersibility in water





INDICATIONS

CARDIOVASCULAR HEALTH
BLOOD LIPID MANAGEMENT

LIPOPHYTOL

Lipophytol™ microcapsules are water dispersible plant sterols for cholesterol reduction

- **supplier**
Lipofoods
- **product grade**
powder suitable for use in foods and beverages
- **daily dose**
from 800 mg to be able to use health claim
- **stability**
48 months shelf life
- **certificates**
Halal, approved Novel Food status in EU, Vegetarian, Vegan

advantages:

- **microencapsulation** facilitates the use in different food matrices
- **high phytosterol concentration**
- **readily dispersible**
- **2 grades available**
- **authorized EFSA health claim:** Plant sterols contribute to the maintenance of normal blood cholesterol levels

mechanisms of action:

- **plant sterols reduce cholesterol absorption** and thus circulating levels of cholesterol
- **sterols compete with cholesterol for space in the micelles**, resulting in unabsorbed cholesterol which is later excreted from the body
- **sterols help lower LDL cholesterol** (bad cholesterol), but don't appear to affect levels of HDL cholesterol (good) or triglycerides



CURCUSHINE™
microcapsules

**microencapsulated curcumin for anti-ageing
protection of the skin from within**

- **supplier**
Lipofoods
- **product grade**
powder suitable for dietary supplements,
functional beverages and nutricosmetics
- **daily dose**
from 500 mg
- **stability**
24 months shelf life
- **certificates**
Halal, Kosher



INDICATIONS

SKIN HEALTH & BEAUTY
HEALTHY AGEING

advantages:

- **curcumin is a potent antioxidant** with anti-inflammatory activity
- **microcapsule delivery system**
- **improved absorption and bioavailability** compared to regular curcumin
- **high solubility** in water
- **protects collagen from oxidative stress** to slow the process of skin ageing
- **targets advanced glycation end products (AGEs)**, which are involved in the damage of collagen in the skin, resulting in stiffness and loss of elasticity

mechanisms of action:

- **antioxidant and anti-inflammatory properties** – skin ageing is associated with oxidative stress and inflammation
- **reduces reactive oxygen species (ROS)**
- **helps to diminish the effect of AGEs** in tissues including skin
- **AGEs are proteins or lipids that become glycated as a result of exposure to sugars** – they have pro-inflammatory action and are markers of aging and many degenerative diseases
- **AGEs are involved in connective tissue damage** by cross-linking collagen fibril which decreases elasticity





INDICATIONS
ENERGY SUPPORT
COGNITIVE HEALTH
SPORTS NUTRITION
STRESS MANAGEMENT

MAGSHAPE™
microcapsules

highly concentrated microencapsulated magnesium source for products effective at restoring and maintaining a healthy level of this mineral in human cells and bones

- **supplier**
Lipofoods
- **product grade**
powder suitable for capsules, tablets, chewables and orosoluble powder products
- **daily dose**
Recommended Daily Allowance (RDA) for magnesium in the European Union is 375 mg
- **stability**
18 months shelf life
- **certificates**
Halal, Kosher, Vegetarian, Vegan

advantages:

- **highly concentrated magnesium (30%)**
- **microencapsulation technology** provides improved flowability and compressibility
- **in vitro results show relaxation effect on the nervous transmission**
inhibits release of neurotransmitter noradrenaline
- **improves muscular function thanks to relaxation**
the muscle relaxes more quickly

mechanisms of action:

magnesium contributes to:

- **reduction** of tiredness and fatigue
- **electrolyte** balance
- **normal functioning of the nervous system** and psychological function
- **normal muscle function** and normal energy-yielding metabolism
- **maintenance of normal bones and teeth**
- **has a role in the process** of cell division





INDICATIONS

PRENATAL HEALTH
FERTILITY
CARDIOVASCULAR HEALTH
MOOD & COGNITIVE HEALTH

EXTRA[®]
folate-S

next-generation folate source - the calcium salt of (6S)-5-methyltetrahydrofolate, intended for use as an alternative to folic acid

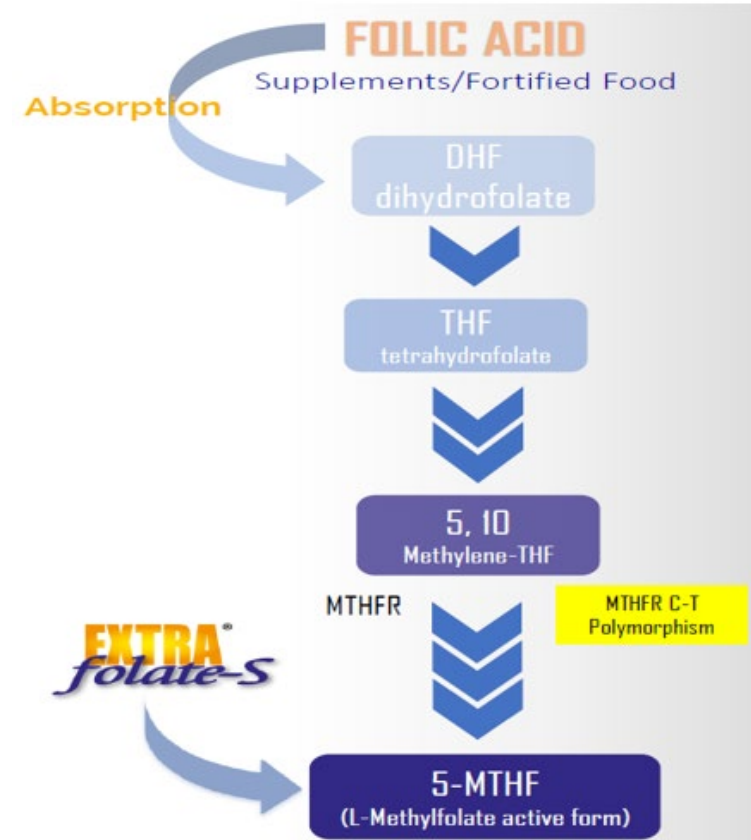
- **supplier**
Gnosis by Lesaffre
- **product grade**
powder
- **daily dose**
200 mcg (100 % RDA), daily dose for pregnant women 400 mcg
- **stability**
24 months in its closed under vacuum original packaging; storage conditions: 2 - 8 °C
- **certificates**
lactose free, gluten free, non-GMO, Kosher, Halal

advantages:

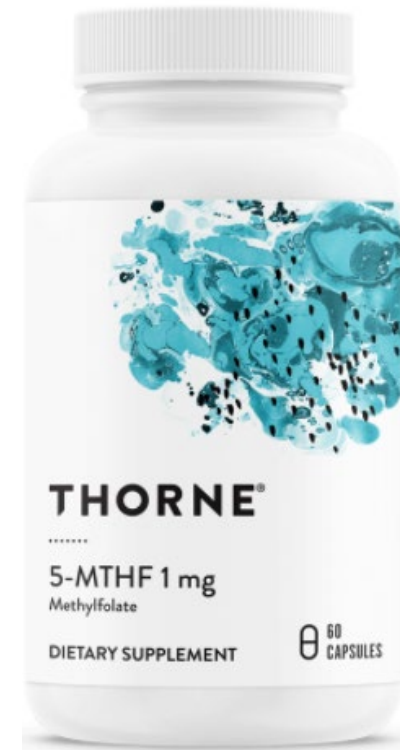
- **biologically active form**
can enter the folate cycle directly, without further metabolism
- **does not result in unmetabolized folic acid (UMFA) which the body cannot use**
- **suitable for people with polymorphisms in MTHFR gene**
up to 50% of the population in some countries

mechanisms of action:

- **maternal tissue growth** during pregnancy
- **normal homocysteine metabolism**
- **normal psychological function**, amino acid synthesis and blood formation
- **normal function** of the immune system
- **reduction** of tiredness and fatigue
- **folate has a role** in the process of cell division



product examples





next generation folate source - glucosamine salt of 6S-5-methyltetrahydrofolate (6S-5-MTHF) is an active folate the body can immediately use without conversion, avoiding the accumulation of unmetabolized folic acid (UMFA)

- **supplier**
Gnosis by Lesaffre
- **product grade**
powder
- **daily dose**
200 mcg (100 % RDA)
for pregnant women 400 mcg
- **stability**
24 months when stored below 25°C
- **certificates**
Kosher, Halal, Vegetarian, Vegan, approved Novel Food status in EU



INDICATIONS

PRENATAL HEALTH
FERTILITY
CARDIOVASCULAR HEALTH
MOOD & COGNITIVE HEALTH

advantages:

- **100 times improved solubility** due to glucosamine salt as a carrier
- **higher bioavailability**
- **biologically active form**
can enter the folate cycle directly without prior metabolism
- **does not result in unmetabolized folic acid (umfa) which the body cannot use**
- **suitable for people with polymorphisms in MTHFR gene**
up to 50% of the population in some countries
- **highly clinically supported**
tested in couples with fertility problems

awards:

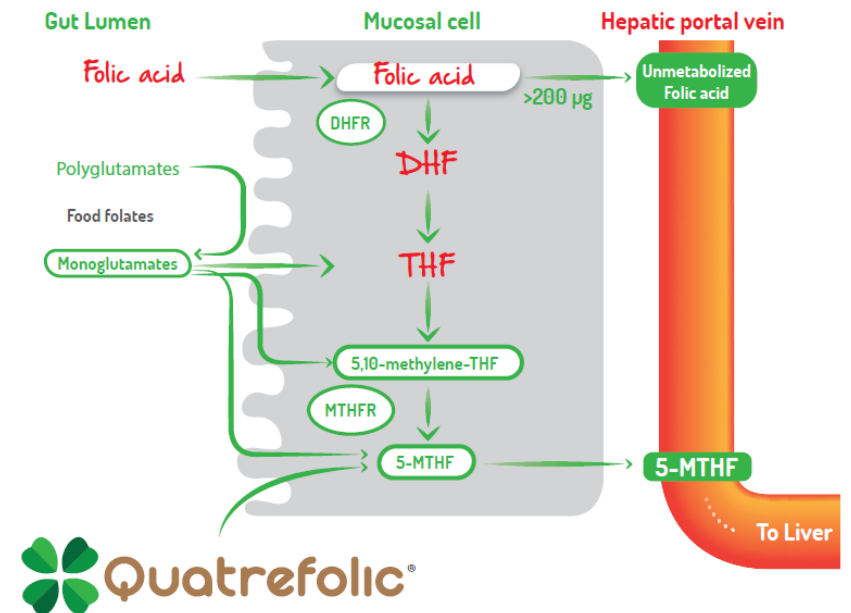
- **“Most Effective Strategic Product Development”** at Nutraceutical Business & Technology (NBT) Awards 2011 Finalist
- **“Best New Ingredient”** NaturAward 2012 Finalist
- **Finished product of the Year** in the Medical Food category - NutraIngredients Awards 2016 Winner



mechanisms of action:

Folate is involved in many processes in the body:

- **maternal tissue growth** during pregnancy
- **normal homocysteine metabolism**
- **normal psychological function**, amino acid synthesis and blood formation
- **normal function** of the immune system
- **reduction** of tiredness and fatigue
- **has a role** in the process of cell division



Quatrefolic® passes the gastric barrier and is absorbed mainly in the small intestine by a carrier mediated mechanism. The carrier is not saturated and this enables Quatrefolic® to ensure a higher folate uptake (3,4).

Clinical studies:

- Miraglia et al., 2016: Enhanced oral bioavailability of a novel folate salt: comparison with folic acid and a calcium folate salt in a pharmacokinetic study in rats
- Internal clinical study: Crossover comparative bioavailability study of Quatrefolic® compared with the reference Metafolin® in healthy volunteers
- Mazza et al., 2016: Nutraceutical approaches to homocysteine lowering in hypertensive subjects at low cardiovascular risk: a multicenter, randomized clinical trial (study on finished product)
- Servy et al., 2018: MTHFR isoform carriers. 5-MTHF (5-methyl tetrahydrofolate) vs folic acid: a key to pregnancy outcome: a case series (study in couples with fertility problems)
- Clément et al., 2020: 5-Methyltetrahydrofolate reduces blood homocysteine level significantly in C677T methyltetrahydrofolate reductase single-nucleotide polymorphism carriers consulting for infertility (couples with fertility problems)
- Cirillo et al., 2021: 5-methyltetrahydrofolate and vitamin B12 supplementation is associated with clinical pregnancy and live birth in women undergoing assisted reproductive technology



product examples





INDICATIONS

BONE HEALTH

CARDIOVASCULAR HEALTH

natural vitamin K2 (menaquinone-7 or MK-7)
from a patented bio-fermentation process, using
a specific strain of *Bacillus subtilis natto*

- **supplier**
Gnosis by Lesaffre
- **product grade**
powder or oil form available in different concentrations; suitable for tablets, capsules, softgels, liquids, fortified food
- **daily dose**
from 45 mcg of vitamin K2
- **stability**
48 months shelf life, oil grade 36 months
- **certificates**
Vegetarian, Vegan, Kosher and Halal, non-GMO

advantages:

- **natural source** of vitamin K2
- **high purity with >99% of biologically active all trans isomers**
- **comes in several forms and concentrations**
oil and powder, 2.500 – 20.000 ppm
- **backed by clinical** and pre-clinical studies
- **gluten-free, lactose-free**, toxins & pesticides-free, soy-free, animal material-free

mechanisms of action:

- **supports the function of vitamin D (synergistic action)**
helps to transfer calcium into the bones instead of blood vessels
- **activates vitamin K-dependent proteins** and improves the ratio of carboxylated and undercarboxylated osteocalcin (cOC/ucOC))



clinical studies:

- **Internal study: VitaMK7® bioavailability single dose oral administration in healthy volunteers**
- **Bruge et al., 2011: Olive oil supplemented with menaquinone-7 significantly affects osteocalcin carboxylation** (increased carboxylated osteocalcin and decreased undercarboxylated osteocalcin plasma levels)
- **Cirilli et al, 2019: Bioavailability of menaquinone-7 in milk formulation. Comparison of different solubilization techniques**

pre-clinical studies:

- **Internal study: Effect of VitaMK7® on PGE-2 synthesis in bone forming osteoblasts** (effective in inhibiting pro-inflammatory mediator PGE-2 production and thus blocking bone resorption)
- **Gigante et al., 2012: Vitamin MK-7 enhances vitamin D3-induced osteogenesis in hMSCs: modulation of key effectors in mineralization and vascularization**

purity/stability study:

- **Orlando et al., 2019: Menaquinone 7 stability of formulations and its relationship with purity profile**



product examples



Turmacin™

water-soluble composition from turmeric (*Curcuma longa*), standardized to bioactive polysaccharides called 'turmerosaccharides' and without curcuminoids

- **supplier**
Natural Remedies
- **product grade**
powder suitable for shots, tablets, lozenges, spray, gummies, biscuits, capsules, candies, creams
- **daily dose**
500-1000 mg
- **stability**
24 months shelf life
- **certificates**
non-GMO Project verified, clean label, Kosher, Halal



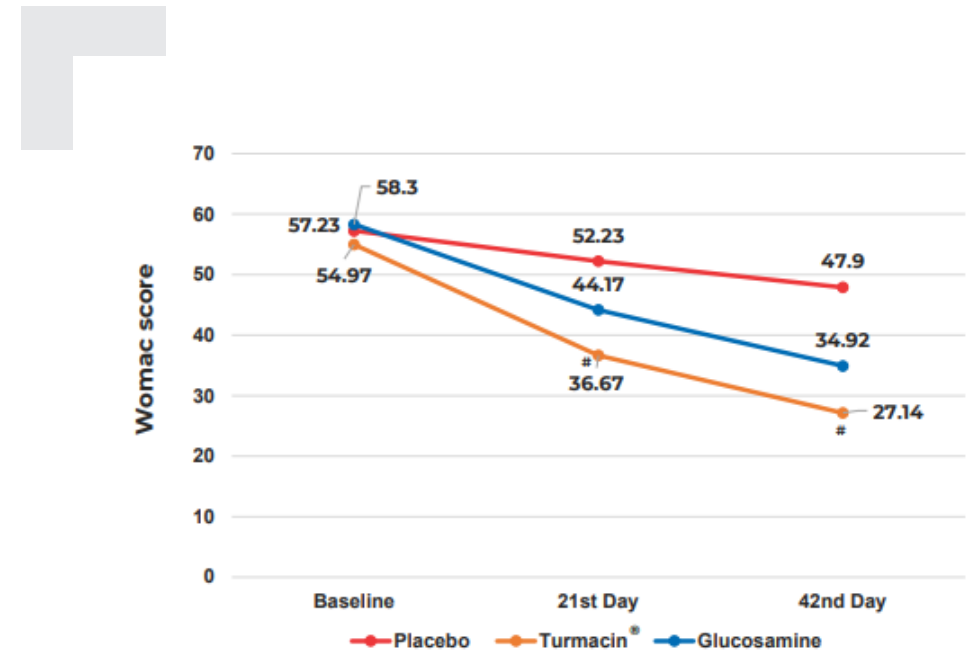
INDICATIONS
JOINT HEALTH
ANTI-INFLAMMATORY SUPPORT
SPORTS NUTRITION

advantages:

- **first turmeric ingredient** not based on curcuminoids
- **water-soluble**
naturally bioavailable, no need to further improve absorption like with standard turmeric extracts
- **water-extracted turmeric product**
no use of solvents
- **clinically researched and supported**
5 clinical studies
- **powerful anti-inflammatory activity**
reduces pain severity by 50% in 3 hours
- **significantly improves joint pain, stiffness and function**
based on the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score (graph on the right) – compared to glucosamine and placebo
- **patented composition**

mechanisms of action:

- **reduces production of inflammatory mediators**, reactive oxygen species (ROS) and collagen degradation markers
- **increases synthesis of collagen**, proteoglycans and anti-inflammatory cytokines
- **reduces cartilage damage** and ageing of cartilage cells



clinical studies:

- Madhu et al., 2012: Safety and efficacy of *Curcuma longa* extract in the treatment of painful knee osteoarthritis: a randomized placebo-controlled trial
naturally bioavailable, no need to further improve absorption like with standard turmeric extracts
- Calderon-Perez et al., 2020: Acute effects of turmeric extracts on knee joint pain: a pilot, randomized controlled trial (finished product)
- Raj et al., 2020: Effect of Turmacin supplementation on joint discomfort and functional outcome among healthy participants – A randomized placebo-controlled trial
- Wang et al., 2020: Effectiveness of *Curcuma longa* extract for the treatment of symptoms and effusion–synovitis of knee osteoarthritis, A randomized trial
- Selvi et al., 2020: Safety of NR-INF-02, an extract of *Curcuma longa* containing turmerosaccharides, in healthy volunteers: a randomized, open-label clinical trial

pre-clinical studies:

- Chandrasekaran et al., 2013: Safety evaluation of turmeric polysaccharide extract: assessment of mutagenicity and acute oral toxicity
- Chandrasekaran et al., 2013: Immune-stimulatory and anti-inflammatory activities of *Curcuma longa* extract and its polysaccharide fraction
- Illuri et al., 2015: Anti-inflammatory activity of polysaccharide fraction of *Curcuma longa* extract (NR-INF-02)
- Bethapudi et al., 2017: Bioactive turmerosaccharides from *Curcuma longa* extract (NR-INF-02): Potential ameliorating effect on osteoarthritis pain



product examples



**INDICATIONS**

COGNITIVE HEALTH
MEMORY SUPPORT
ADHD
HEALTHY AGEING

clinically proven standardized extract of *Bacopa monnieri* (Brahmi), a plant from ayurvedic medicine, supporting memory and cognitive abilities in children and adults

- **supplier**
Natural Remedies
- **product grade**
powder suitable for beverages, candies, bakery products
- **daily dose**
adults: 300-450 mg
children: 225 mg
- **stability**
24 months shelf life
- **certificates**
GRAS, Halal, USDA Organic, non-GMO Project verified, India Organic, Kosher, Vegan

advantages:

- **full spectrum extract** with 9 different bioactives
- **patented composition**
- **1st Bacopa extract** to receive GRAS status
- **5 clinical studies**
2 efficacy studies in children and 2 in elderly + safety study
- **improves memory acquisition**, retention, attention and learning in the elderly
- **improves attention**, learning, impulsivity, restlessness and self-control in children ADHD
- **improves memory in children** requiring individual education program
- **sustainable** supply chain

mechanisms of action:

- **neuroprotective**
high antioxidant activity, protection from oxidative stress
- **neurotrophic**
stimulating neuronal growth
- **supports neurotransmission**
- **nootropic**
cognitive enhancement, improved learning and memory
- **increases dopamine levels** in the cortex
- **neuroprotective and antioxidant effects** on the hippocampus and the frontal cortex
- **action on specific brain regions** associated with attention, inhibition and neurotransmitters



clinical studies:

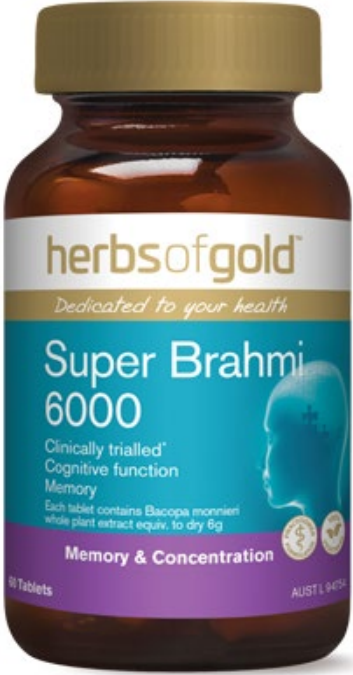
- Pravina et al., 2007: Safety evaluation of BacoMind™ in healthy volunteers: A phase I study
- Barbhaiya et al., 2008: Efficacy and tolerability of BacoMind® on memory improvement in elderly participants – a double blind placebo-controlled study (improved attention and verbal memory)
- Usha et al., 2008: BacoMind®: A cognitive enhancer in children requiring individual education programme
- Morgan et al., 2010: Does *Bacopa monnieri* improve memory performance in older persons? Results of a randomized, placebo-controlled, double-blind trial (improved memory acquisition and retention)
- Dave et al., 2014: An open-label study to elucidate the effects of standardized *Bacopa monnieri* extract in the management of symptoms of attention-deficit hyperactivity disorder in children (alleviates symptoms of ADHD, well-tolerated)

pre-clinical studies:

- Allan et al., 2007: Safety evaluation of a standardized phytochemical composition extracted from *Bacopa monnieri* in Sprague-Dawley rats
- Kasture et al., 2007: Nootropic activity of BacoMind™, an enriched phytochemical composition from *Bacopa monnieri*
- Dipanwita et al., 2008: In vitro safety evaluation and anticlastogenic effect of BacoMind™ on human lymphocytes (antioxidant, inhibits damage to chromosomes)



product examples





INDICATIONS

EYE HEALTH
COGNITIVE HEALTH
SKIN HEALTH & BEAUTY

naturally derived marigold extract, containing a unique combination of all three macular carotenoids: lutein, zeaxanthin, and meso-zeaxanthin

- **supplier**
OmniActive
- **product grade**
powder suitable for gummies, chewables, bars, powders, stick packs, capsules, tablets
- **daily dose**
10 mg of lutein + 2 mg of zeaxanthin (50-200mg of Lutemax, depending on grade)
- **stability**
24 months shelf life
- **certificates**
non-GMO Project verified, clean label, Vegetarian, Vegan, Kosher, Halal, FDA-notified GRAS

advantages:

- **multiple grades** and concentrations available
- **patented composition and unique delivery system**
powder grade with beadlets improves stability, dispersibility and bioavailability
- **5:1 ratio** of lutein and zeaxanthin isomers, as found in nature
- **higher levels of lutein and zeaxanthin isomers**
compared to most commercial forms
- **proven bioavailability**
of lutein and zeaxanthin and deposition in the eye
- **backed by multiple clinical studies**
supporting eye health, cognitive performance, reduced stress, sleep quality, and skin health
- **increased macular pigment optical density (MPOD)**
in just 8-weeks



awards:

- **winner of the 2018 NutrAward** Best Functional Ingredient
- **2017 North American Product Leadership Award** presented by Frost & Sullivan

mechanisms of action:

eye health:

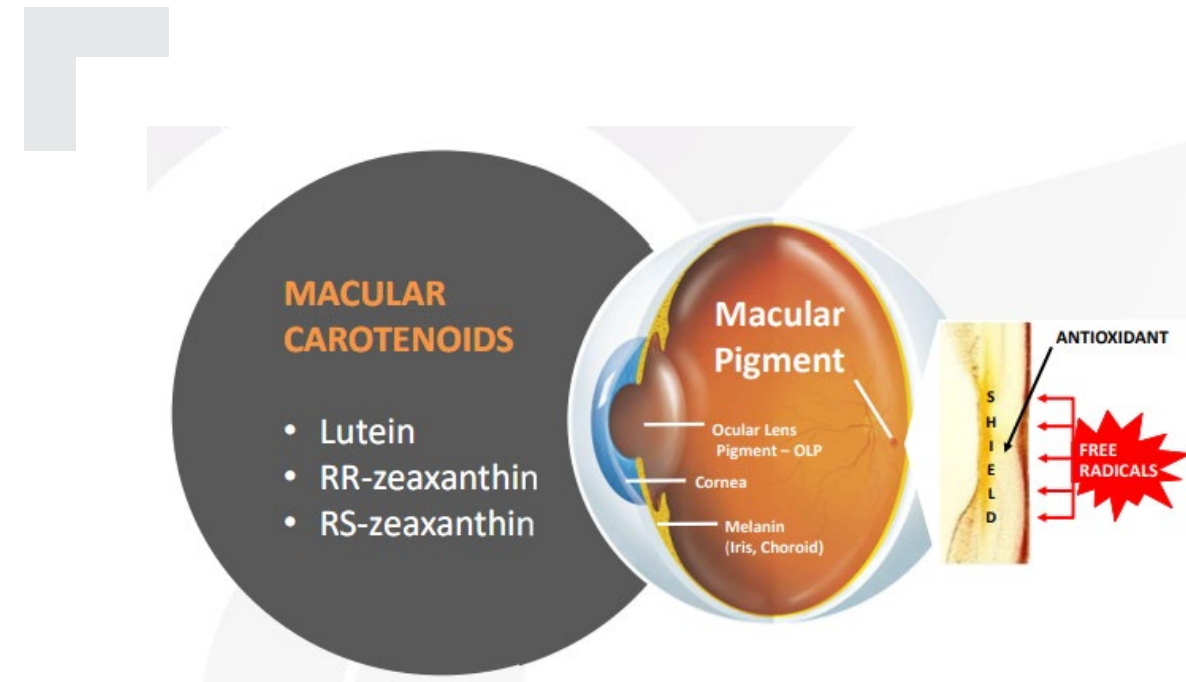
- **increasing macular pigment optical density (MPOD)**, a protective layer in the retina (macula) of the eye, filtering high-energy blue light
- **antioxidant action**
protection against oxidative stress
- **improvement of visual parameters**
glare performance, photo-stress recovery, contrast sensitivity
- **improvement of physical symptoms of high screen time**
eye strain, eye fatigue, headache, sleep quality

skin health:

- antioxidant and anti-inflammatory action,
- protection against photooxidative damage

cognitive support:

- increased antioxidant and anti-inflammatory action
- **increased brain-derived neurotrophic factor BDNF** protein in central nervous system involved in learning and memory)



clinical studies:

eye health:

- Juturu et al., 2016: Bioavailability of lutein/zeaxanthin isomers and macular pigment optical density response to macular carotenoid supplementation: A randomized double blind placebo controlled study
- Stringham et al., 2016: Serum and retinal responses to three different doses of macular carotenoids over 12 weeks of supplementation
- Stringham et al., 2016: Contrast sensitivity and lateral inhibition are enhanced with macular carotenoid supplementation
- Stringham et al., 2016: Macular carotenoid supplementation improves disability glare performance and dynamics of photostress recovery
- Stringham et al., 2017: Macular carotenoid supplementation improves visual performance, sleep quality, and adverse physical symptoms in those with high screen time exposure

stress management:

- Stringham et al., 2017: Supplementation with macular carotenoids reduces psychological stress, serum cortisol, and sub-optimal symptoms of physical and emotional health in young adults

cognitive support:

- Stringham et al., 2019: Effects of macular xanthophyll supplementation on brain-derived neurotrophic factor, pro-inflammatory cytokines, and cognitive performance

skin health:

- Juturu et al., 2016: Overall skin tone and skin-lightening-improving effects with oral supplementation of lutein and zeaxanthin isomers: a double-blind, placebo-controlled clinical trial

product examples





powder made from 100% New Zealand *Feijoa sellowiana* or Pineapple guava, providing benefits for metabolic support and pre-diabetes

- **supplier**
Anagenix
- **product grade**
powder suitable for capsules, tablets, sachets, scoops
- **daily dose**
700-2300 mg
- **stability**
36 months shelf life; material is hygroscopic
- **certificates**
non-GMO, self-determined GRAS, gluten-free, preservative-free



INDICATIONS

BLOOD SUGAR MANAGEMENT
PRE-DIABETES
CARDIOVASCULAR HEALTH
WEIGHT MANAGEMENT

advantages:

- **unique ingredient**
- **provides benefits of the whole Feijoa fruit**
including the skins
- **scientifically supported**
- **provides insulin-sensitizing abscisic acid**, anti-inflammatory polyphenols & satiety-promoting dietary fiber
- **improves blood sugar levels**
- **manages blood lipid levels**
- **helps reduce weight gain**
- **patented product**

mechanisms of action:

- **anti-inflammatory properties**
- **reduces blood glucose and HbA1c**
(glycated hemoglobin which measures average level of blood sugar over the past 2 to 3 months)
- **reduces triglycerides and total cholesterol**
- **promotes satiety**
contains prebiotic fiber which stimulate gut bacteria to produce short chain fatty acid propionate which controls satiety



clinical study:

- **Internal study: Effect of Feiolix feijoa extract consumption by patients with type 2 diabetes** (randomized, double blind, placebo-controlled trial)

pre-clinical studies:

- **Internal study: The effect of feijoa extract on obesity in leptin-deficiency obese animal model** (published in patent specification)
- **Internal study: Determination of the effect of feijoa extract in high fat diet (HFD) induced metabolic syndrome in C57BL/6J mice** (unpublished)
- **Internal study: The effect of feijoa extract on immune function in aged mice animal model** (published in patent specification)
- **Internal study: Evaluation of the anti-inflammatory properties of feijoa extracts** (unpublished)





hydrolyzed marine collagen from fish cartilage for joint health and skin support with a synergetic action of its components

- **supplier**
Abyss Ingredients
- **product grade**
powder suitable for tablets, capsules, sticks, liquid, soft gels and liquid form which needs to be shaken)
- **daily dose**
1 g
- **stability**
36 months shelf life
- **certificates**
Halal

INDICATIONS

JOINT HEALTH
SKIN HEALTH & BEAUTY

advantages:

- **synergistic action of collagen proteins (type II)** and glycosaminoglycans (chondroitin sulfate, glucosamine sulfate, hyaluronic acid).
- **highly digestible** low molecular weight peptides
- **gentle eco-friendly** water extraction
- **synergetic effects** for joint health
- **supported by clinical** and pre-clinical evidence

mechanisms of action:

- **collagen hydrolysate is absorbed intestinally** and accumulated in the cartilage
- **components provide structural molecules** and can stimulate the production of own collagen for healthy joints and skin
- **pain reduction** and mobility improvement



clinical studies:

- Maia Campos et al., 2021. Oral supplementation with hydrolyzed fish cartilage improves the morphological and structural characteristics of the skin: a double-blind, placebo-controlled clinical study
- **internal study: Clinical study in adult population with moderate knee joint discomfort and loss of functionality** (an exploratory, non-comparative, multi-centric trial): Cartidyss® significantly improves global knee function, reduces joint discomfort, has a significant impact on quality of life

pre-clinical study:

- Henrotin et al., 2021: Oral supplementation with fish cartilage hydrolysate accelerates joint function recovery in rat model of traumatic knee osteoarthritis



product examples





marine collagen hydrolysate from fish skin for healthy skin and joint support

- **supplier**
Abyss Ingredients
- **product grade**
powder suitable for capsules, tablets, soft gels and sachets, as a gel-form for beverages, ampoules or syrups
- **daily dose**
5-10 g
- **stability**
36 months shelf life
- **certificates**
Halal



INDICATIONS
JOINT HEALTH
SKIN HEALTH & BEAUTY

advantages:

- **>90% collagen peptides**
- **highly digestible** collagen type I peptides
- **low molecular weight** of peptides enables higher digestibility
- **sustainable collagen** from environmentally friendly process
- **marine alternative** to bovine, porcine or chicken collagen

mechanisms of action:

- **hydrolysate is quickly absorbed** after oral ingestion
- **collagen peptides promote the synthesis of collagen** and elastin and stimulate fibroblast cells
- **collagen hydrolysates** were shown to have anti-inflammatory and antioxidant activity



product examples



innovative, patented composition of low molecular weight marine peptides & omega-3 to prevent cognitive decline

- **supplier**
Abyss Ingredients
- **product grade**
powder suitable for capsules
- **daily dose**
2,35 g
- **stability**
24 months shelf life
- **awards**
innovation Awards from Business France
during the last FI Europe





advantages:

- **unique composition** from natural source (sardine hydrolysate)
- **produced from upcycled** local marine by-products
- **gentle, solvent-free**, eco-friendly proprietary process
- **scientifically supported**

mechanisms of action:

- **significant improvement** of short-term and long-term memory
- **reduction** of age-related neuroinflammation
- **significant improvement** of inflammatory response compared to DHA
- **restores stress-hormone levels** and prevents the deleterious effects of age-related stress on memory



pre-clinical studies:

- Chataigner et al., 2021: Fish hydrolysate supplementation containing n-3 long chain polyunsaturated fatty acids and peptides prevents LPS-induced neuroinflammation
- Chataigner et al., 2020: Dietary fish hydrolysate supplementation containing n-3 LC-PUFAs and peptides prevents short-term memory and stress response deficits in aged mice
- Chataigner et al., 2021: Dietary fish hydrolysate improves memory performance through microglial signature remodeling during aging

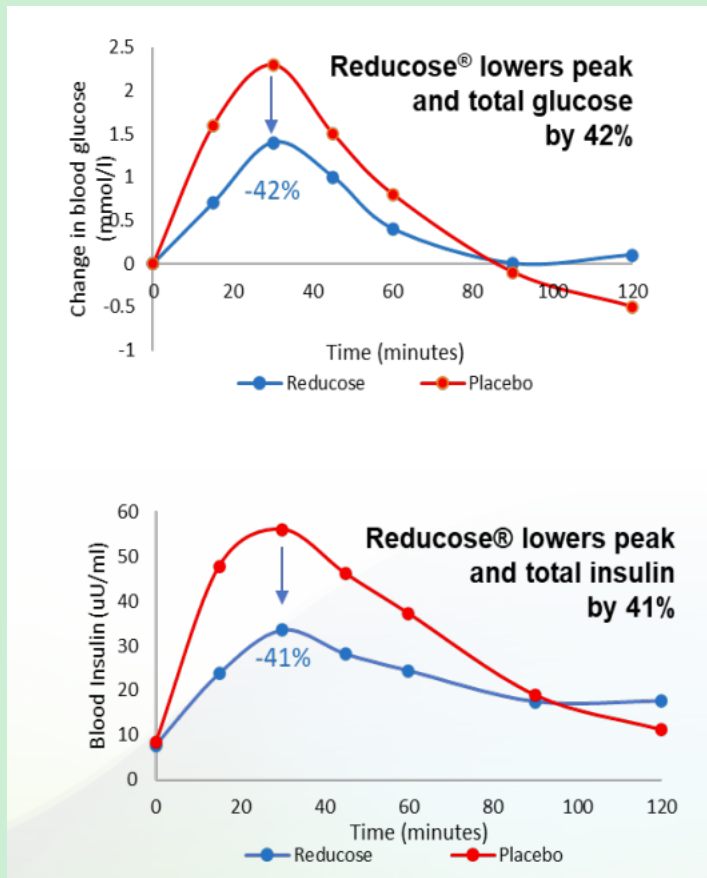


proprietary mulberry (*Morus alba*) leaf extract,
turns fast sugars and other carbs into slow ones

- **supplier**
Phynova
- **product grade**
powder suitable for tablets, capsules, soft melts, foods (baked goods, bars, fortified rice, congee), beverages (RTD beverages...)
- **daily dose**
200-250 mg
- **stability**
30 months shelf life
- **certificates**
Halal, Kosher, vegetarian, non-GMO



INDICATIONS
BLOOD SUGAR MANAGEMENT

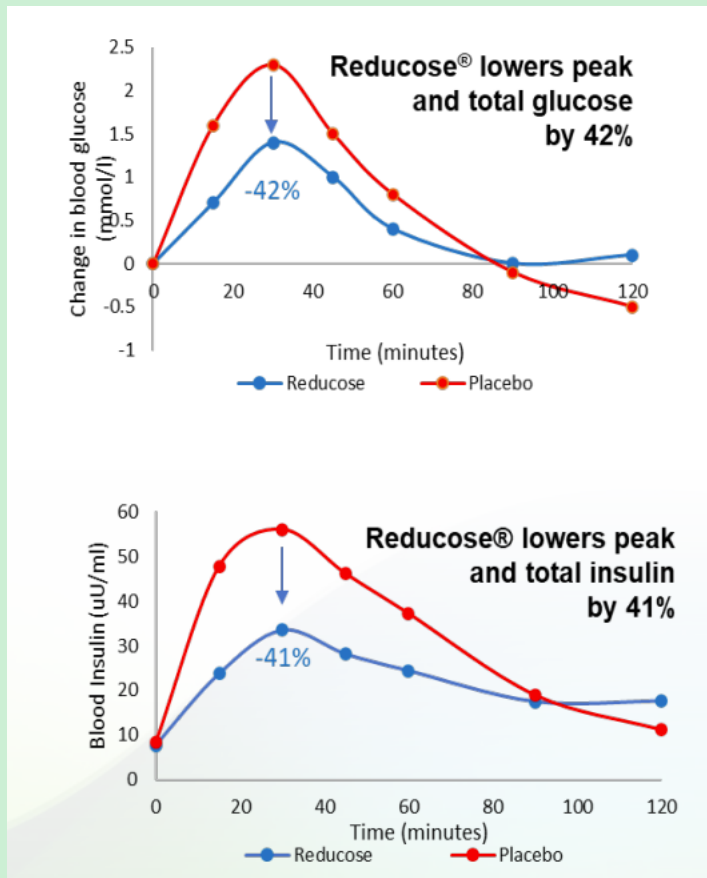


advantages:

- patented, unique & natural water extract for healthy blood glucose with immediate effect
- clinically proven ~ 40% reduction in post-meal blood glucose and insulin response
- unlike typical carb-blockers, prevents absorption of a wide range of carbohydrates
- reduced cravings and feeling of hunger
- undigested carbs feed the good bacteria

mechanisms of action:

- contains 1-deoxynojirimycin (structurally similar to D-glucose) which inhibits intestinal α -glucosidase enzymes, responsible for breakdown of carbohydrates before absorption
- adding Reducose® to a meal lowers the glycemic index of the food and lowers the postprandial blood glucose response, as it stops the carbohydrates from being digested
- Reducose® is normally absorbed and excreted unmetabolized after its action



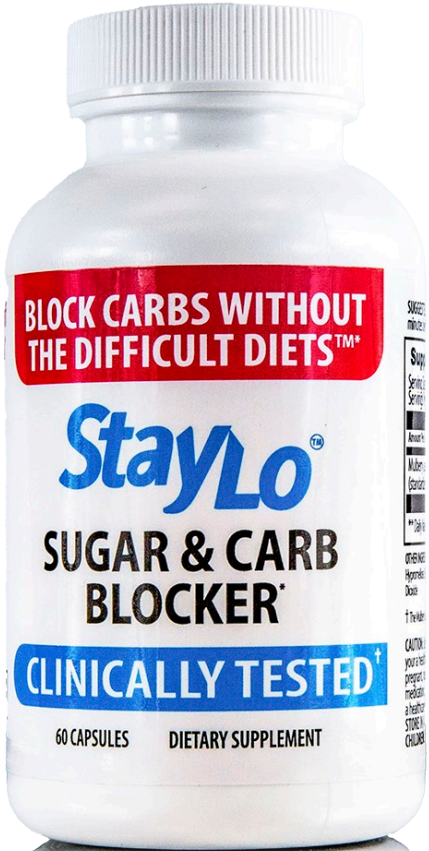
clinical studies:

- Lown et al., 2015: Mulberry extract to modulate blood glucose responses in normoglycaemic adults (MULBERRY): study protocol for a randomised controlled trial
- Lown et al., 2017: Mulberry-extract improves glucose tolerance and decreases insulin concentrations in normoglycaemic adults: Results of a randomised double-blind placebo-controlled study
- Wang et al., 2018: Mulberry leaf extract reduces the glycaemic indexes of four common dietary carbohydrates (Co-consumption of Reducose with sucrose, maltose, or maltodextrin can reduce the GI values of these carbohydrates)
- Thondre et al., 2021: Mulberry leaf extract improves glycaemic response and insulaemic response to sucrose in healthy subjects: results of a randomized, double blind, placebo-controlled study

pre-clinical study:

- Liu et al., 2016: Prevention Effects and Possible Molecular Mechanism of Mulberry Leaf Extract and its Formulation on Rats with Insulin-Insensitivity

product examples





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Hermes Consilium Ltd.

www.hermes-consilium.com | info@hermes-consilium.com | +386 1 434 56 78
Cesta v Mestni log 88a, 1000 Ljubljana, SI - European Union